



APPENDIX E
Wetland Technical Report
Appendices B to E

**Tier 2 Environmental Impact
Statement**

I-69 Section 6

Martinsville to Indianapolis



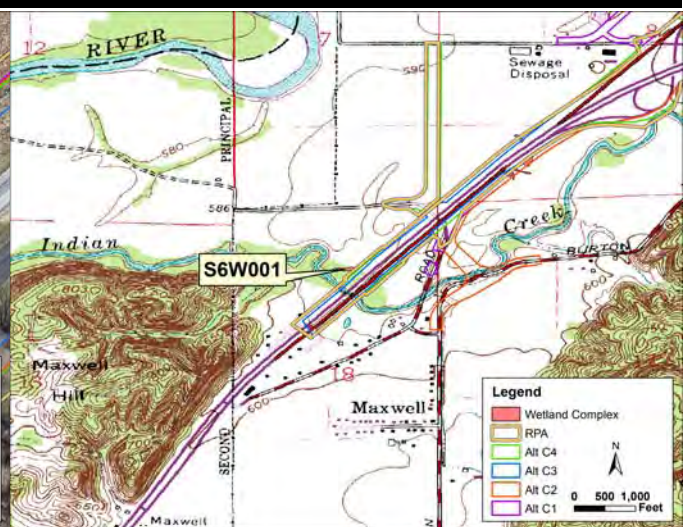
APPENDIX B

Wetland Site Forms and InWRAP Data Sheets

Wetland S6W001



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.3087
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 18
Quarter: N
Latitude: 39.394297
Longitude: -86.459918

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W001A	Seasonally Flooded Basin	PEM	0.3087	fair	fair	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.01	3.1%

Wetland S6W001



Polygon S6W001A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W001

Date of Site Visit: Wednesday, October 21, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.3087

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.76

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W001A

a. **Indiana Wetland community type:** Seasonally Flooded Basin

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 2 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 4 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 5 Good Medium Poor

d. Average coefficient of conservatism: 3.8 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 27 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W001A	PEM1	0.3087

1.2 Site VisitTeam Members: Rusty Yeager & Kate LucierAgency: Lochmueller GroupDate assessed: 10/21/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.3087Size of wetland complex: 0.3087**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

70 Native Vegetation - woodland 0 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 0 Industrial30 Agricultural - tilled 0 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites S Reed Canary Grass
 Purple Loosestrife S Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

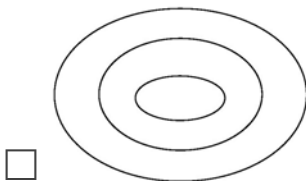
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

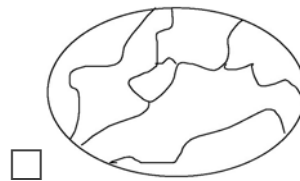
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Symphyotrichum lanceolatum*

d. _____

b. *Bidens frondosa*

e. _____

c. *Pericaria punctata*

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Acer saccharinum*

c. _____

b. *Platanus occidentalis*

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other
- ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ✓ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ✓ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ✓ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ✓ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ✓ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

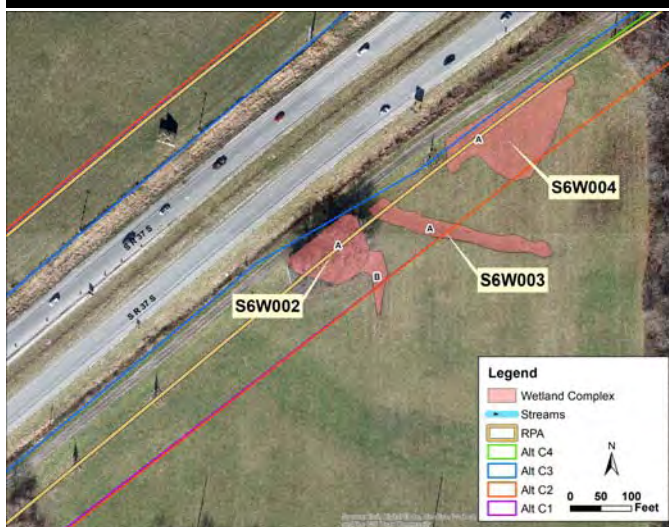
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

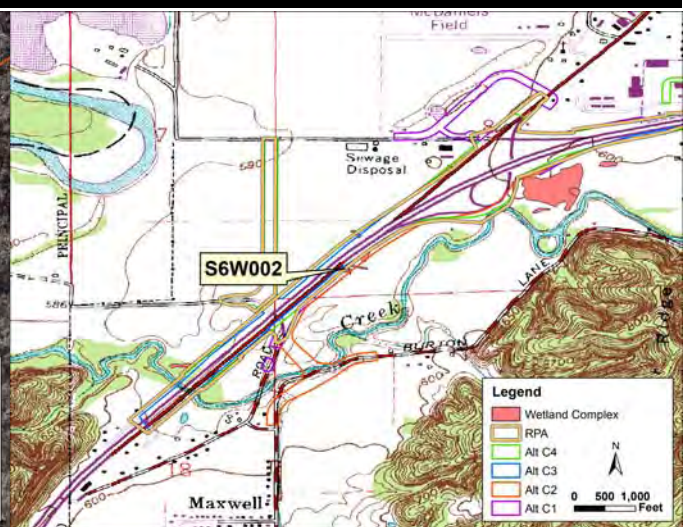
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W002



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.2079
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SW
Latitude: 39.398579
Longitude: -86.452489

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W002A	Floodplain Forest	PFO	0.1683	fair	fair	fair	Alt C1	0.17	100.0%
							Alt C2	0.17	100.0%
							Alt C3	0.00	0.0%
							Alt C4	0.09	52.2%
							RPA	0.09	52.4%
S6W002B	Seasonally Flooded Basin	PEM	0.0396	poor	poor	fair	Alt C1	0.03	74.7%
							Alt C2	0.03	75.5%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W002



Polygon S6W002A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W002

Date of Site Visit: Tuesday, May 12, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.2079

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.80

d. Value surrounding area adds to animal habitat: **Valuable** Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W002A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable **Neutral**

c. Disturbances to site: road/railroad

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species:

h. Polygon Quality Descriptor: Good **Medium** Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable **Favorable** Neutral

b. Water quality protection - numerical rank (6 max.): 4 Good **Medium** Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good **Medium** Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: **Valuable** Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 11 **Good** Medium Poor

d. Average coefficient of conservatism: 2.3 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: **Valuable** Neutral

f. Mature trees as indicator of animal habitat: **Valuable** Favorable Neutral

g. Total hydrophytic taxa observed: 23 **Good** Medium Poor

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 2 SUMMARY:

Polygon ID S6W002B

a. Indiana Wetland community type:	Seasonally Flooded Basin		
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site:	_____		
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed:	None		
f. Special Community Type:	None		
g. Rare-Threatened-Endangered Species:	_____		
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.):	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed:	Good	Medium	Poor
d. Average coefficient of conservatism:	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed:	Good	Medium	Poor
h. Number of indicator taxa:	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W002A	PFO1	0.1683
S6W002B	PEM1	0.0396

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/12/2015Time assessed: 2:30:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.2079Size of wetland complex: 0.2079**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>100</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife S Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 25 approximate slope (percent 2)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

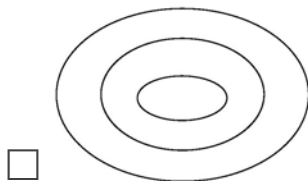
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

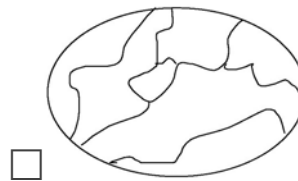
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------|---------------------------------------|
| a. <u>Carex sp.</u> | d. <u>Parthenocissus quinquefolia</u> |
| b. <u>Cinna arundinacea</u> | e. <u>Geum canadense</u> |
| c. <u>Lysimachia nummularia</u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|-------------------------|----------|
| a. <u>Cornus sp.</u> | c. _____ |
| b. <u>Crataegus sp.</u> | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------------------------------|-------------------------------|
| a. <u>Acer saccharinum</u> | c. <u>Celtis occidentalis</u> |
| b. <u>Fraxinus pennsylvanica</u> | d. <u>Ulmus americana</u> |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ✓ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ✓ *bedstraw spp. (Galium) 6
- ✓ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ✓ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ✓ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ✓ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*)
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

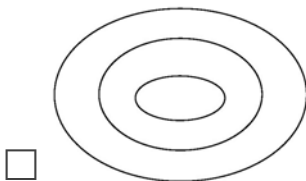
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

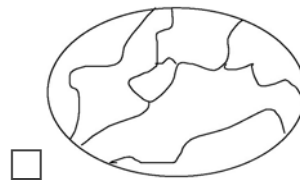
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Symphotrichum lanceolatum*
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ✓ rush spp. (Juncus) 4
- ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ✓ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

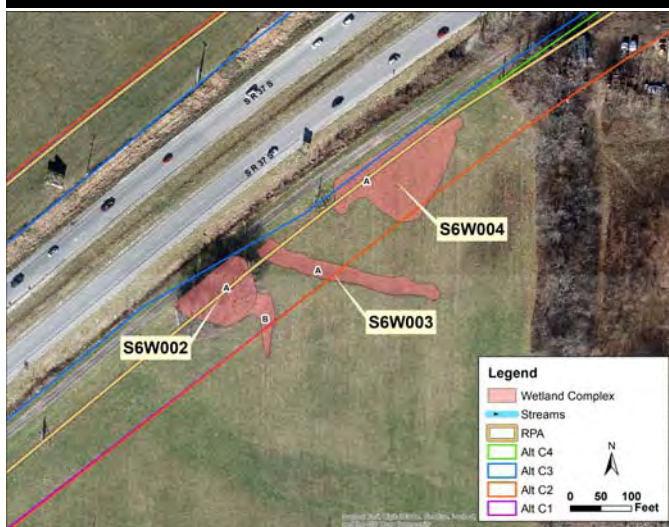
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

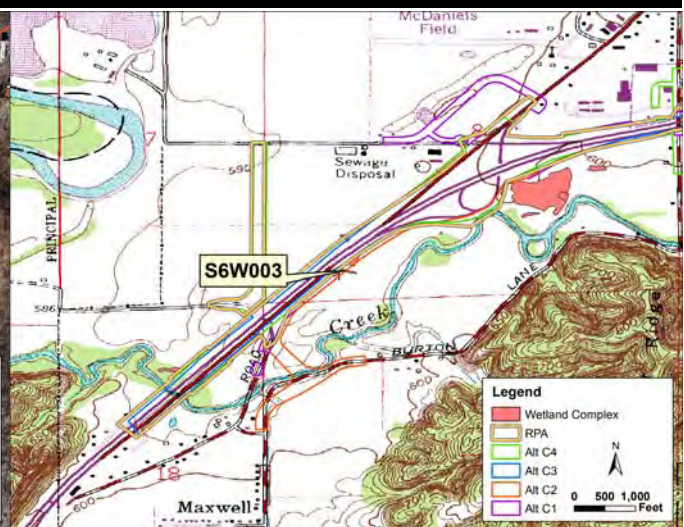
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W003



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.1408
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SW
Latitude: 39.398711
Longitude: -86.452018

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W003A	Seasonally Flooded Basin	PEM	0.1408	poor	poor	fair	Alt C1	0.07	49.0%
							Alt C2	0.07	49.1%
							Alt C3	0.00	0.0%
							Alt C4	0.01	8.9%
							RPA	0.01	8.9%

Wetland S6W003



Polygon S6W103A



Polygon S6W103A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W003

Date of Site Visit: Tuesday, May 12, 2015

Tier 1 Summary:

- a. Total Wetland Area (acres): 0.1408
- b. Wetland size and connectivity - contribution to animal habitat:
- | | | | |
|----------|----------------|-----------|---------|
| Valuable | More Favorable | Favorable | Neutral |
|----------|----------------|-----------|---------|
- c. Surrounding land use - numerical rank (max. = 1): 0.80
- d. Value surrounding area adds to animal habitat:
- | | | |
|----------|-----------|-----|
| Valuable | Favorable | Low |
|----------|-----------|-----|

Tier 2 SUMMARY:

Polygon ID S6W003A

- a. **Indiana Wetland community type:** Seasonally Flooded Basin
- b. Standing water - contribution to animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- c. Disturbances to site: road/railroad
- d. Exotic species rating:
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- e. Special Hydrologic Conditions Observed: None
- f. Special Community Type: None
- g. Rare-Threatened-Endangered Species: None
- h. Polygon Quality Descriptor:
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 3A SUMMARY:

- a. Dead woody material as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- b. Water quality protection - numerical rank (6 max.): 4
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- c. Flood and storm water storage - numerical rank (5 max.): 3
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 3B SUMMARY:

- a. Zonation and interspersions as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- b. Stratification as indicator of animal habitat:
- | | |
|----------|---------|
| Valuable | Neutral |
|----------|---------|
- c. Number of dominant plant taxa observed: 4
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- d. Average coefficient of conservatism: 2.5
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- e. Tree canopy as indicator of animal habitat:
- | | |
|----------|---------|
| Valuable | Neutral |
|----------|---------|
- f. Mature trees as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- g. Total hydrophytic taxa observed: 6
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- h. Number of indicator taxa: 0
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W003A	PEM1	0.1408

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/12/2015Time assessed: 1:45:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1408Size of wetland complex: 0.1408**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>100</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 25 approximate slope (percent 2)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

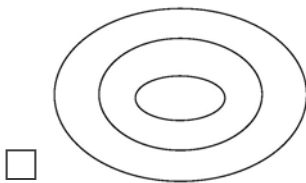
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

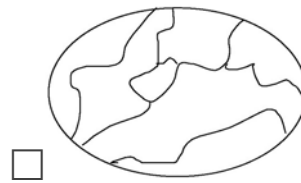
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---|---------------------------------|
| a. <u><i>Symphyotrichum lanceolatum</i></u> | d. <u><i>Juncus effusus</i></u> |
| b. <u><i>Carex sp.</i></u> | e. _____ |
| c. <u><i>Lysimachia nummularia</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ✓ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ✓ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ✓ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___*goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___*grass of Parnassus (*Parnassia glauca*) 10
- ___*Indian plantain (*Cacalia plantaginea*) 10
- ___ironweed spp. (*Vernonia*) 4
- ___jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___lizard's tail (*Saururus cernuus*) 4
- ___lobelia spp. (*Lobelia*) 4
- ___*marsh marigold (*Caltha palustris*) 7
- ___*moonseed (*Menispermum canadense*) 6
- ___primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___rose mallow spp. (*Hibiscus*) 4
- ___smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___sneezeweed (*Helenium autumnale*) 3
- ___stinging nettle (*Laportea canadensis*) 2
- ___*swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___*Virginia bluebells (*Mertensia virginica*) 6
- ___waterhemp (*Amaranthus tuberculatus*) 1
- ___wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___aven spp.: round, white (*Geum*) 2
- ___*buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___chervil (*Chaerophyllum procumbens*) 3
- ___*cowbane (*Oxypolis rigidior*) 7
- ___*great angelica (*Angelica atropurpurea*) 6
- ___hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___honestwort (*Cryptotaenia canadensis*) 3
- ___meadow rue spp. (*Thalictrum*) 5
- ___poison ivy (*Rhus radicans*) 1
- ___*queen-of-the prairie (*Filipendula rubra*) 9
- ___senna spp. (*Cassia*) 4
- ___swamp agrimony (*Agrimonia parviflora*) 4
- ___*swamp thistle (*Cirsium muticum*) 8
- ___tall coneflower (*Rudbeckia laciniata*) 3
- ___*water hemlock spp. (*Cicuta*) 7
- ___water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___bladdernut (*Staphylea trifolia*) 5
- ___buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___buttonbush (*Cephalanthus occidentalis*) 5
- ___dogwood, red-osier (*Cornus stolonifera*) 4
- ___*dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___dogwood, gray (*Cornus racemosa*) 2
- ___elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___*cranberry spp. (*Vaccinium*) 10
- ___*dwarf birch (*Betula pumila*) 10
- ___*highbush blueberry (*Vaccinium corymbosum*) 9
- ___*leatherleaf (*Chamaedaphne calyculata*) 10
- ___meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___*ninebark (*Physocarpus opulifolius*) 7
- ___*shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___spice bush (*Lindera benzoin*) 5
- ___*swamp dewberry (*Rubus hispidus*) 6
- ___*swamp holly and winterberry spp. (*Ilex*) 7
- ___swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___*tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___*ash, black (*Fraxinus nigra*) 7
- ___ash, green (*Fraxinus pensylvanica*) 3
- ___*ash, pumpkin (*Fraxinus tomentosa*) 8
- ___boxelder (*Acer negundo*) 1
- ___hickory, bitternut (*Carya cordiformis*) 5
- ___hickory, shellbark (*Carya laciniosa*) 8
- ___honey locust (*Gleditsia triacanthos*) 1
- ___*poison sumac (*Rhus vernix*) 10

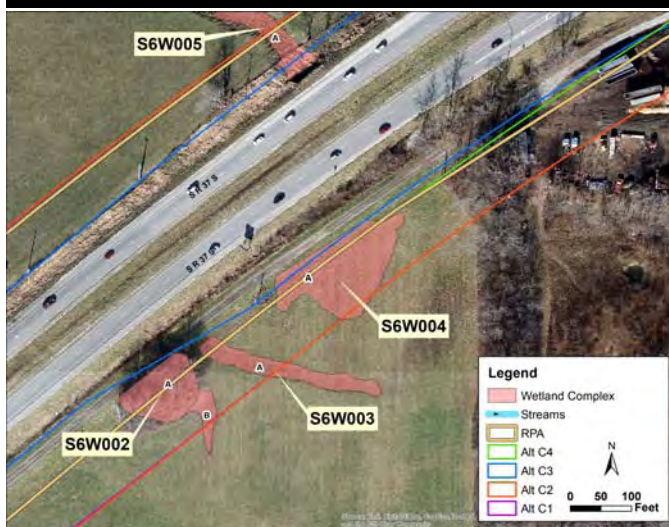
Trees - leaves simple and opposite

- ___red maple (*Acer rubrum*) 5
- ___silver maple (*Acer saccharinum*) 1

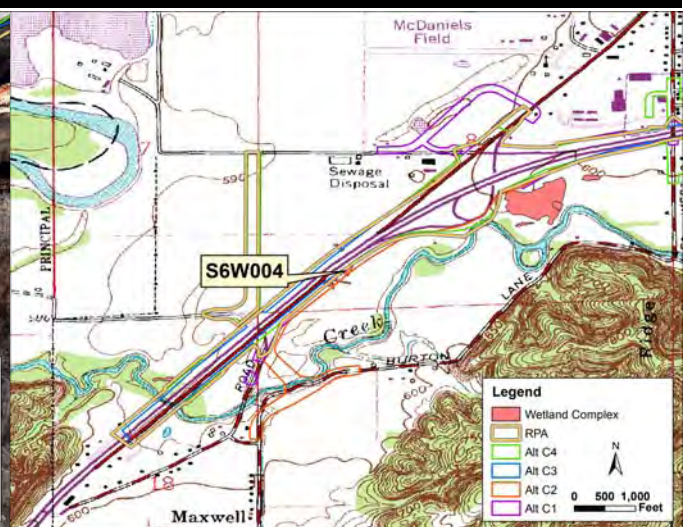
Trees - leaves simple and alternate

- ___*alder, speckled (*Alnus rugosa*) 9
- ___river birch (*Betula nigra*) 2
- ___black, gum (*Nyssa sylvatica*) 5
- ___cottonwood, eastern (*Populus deltoides*) 1
- ___cottonwood, swamp (*Populus heterophylla*) 8
- ___elm, American (*Ulmus americana*) 3
- ___hackberry (*Celtis occidentalis*) 3
- ___ironwood (*Carpinus caroliniana*) 5
- ___oak, pin or white (*Quercus*) 4
- ___*oak, Shumard's, swamp chestnut, swamp white
- ___*pawpaw (*Asimina triloba*) 6
- ___*sugarberry (*Celtis laevigata*) 7
- ___sweet gum (*Liquidambar styraciflua*) 4
- ___sycamore, American (*Platanus occidentalis*) 3
- ___willow spp. (*Salix*) 1 sp. = 3
- ___additional sp. = 7

Wetland S6W004



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.3455
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SW
Latitude: 39.399157
Longitude: -86.451757

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W004A	Seasonally Flooded Basin	PEM	0.3455	poor	poor	fair	Alt C1	0.34	97.7%
							Alt C2	0.34	97.7%
							Alt C3	0.03	7.5%
							Alt C4	0.08	24.3%
							RPA	0.08	24.2%

Wetland S6W004



Polygon S6W004A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W004

Date of Site Visit: Tuesday, May 12, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.3455

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.80

d. Value surrounding area adds to animal habitat: **Valuable** Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W004A

a. **Indiana Wetland community type:** Seasonally Flooded Basin

b. Standing water - contribution to animal habitat: Valuable Favorable **Neutral**

c. Disturbances to site: _____

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species:

h. Polygon Quality Descriptor: Good Medium **Poor**

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 4 Good **Medium** Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good **Medium** Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: **Valuable** Favorable Neutral

b. Stratification as indicator of animal habitat: **Valuable** Neutral

c. Number of dominant plant taxa observed: 4 Good **Medium** Poor

d. Average coefficient of conservatism: 3 Good **Medium** Poor

e. Tree canopy as indicator of animal habitat: Valuable **Neutral**

f. Mature trees as indicator of animal habitat: Valuable Favorable **Neutral**

g. Total hydrophytic taxa observed: 7 Good Medium **Poor**

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W004A	PEM1	0.3455

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/12/2015Time assessed: 3:05:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.3455Size of wetland complex: 0.3455**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>100</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

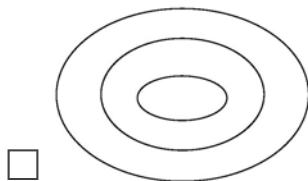
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

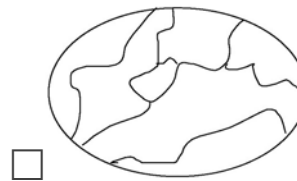
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------|--------------------------|
| a. <u>Scirpus atrovirens</u> | d. <u>Juncus effusus</u> |
| b. <u>Carex vulpinoidea</u> | e. _____ |
| c. <u>Lysimachia nummularia</u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ___ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ✓ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Verbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ✓ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast)
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

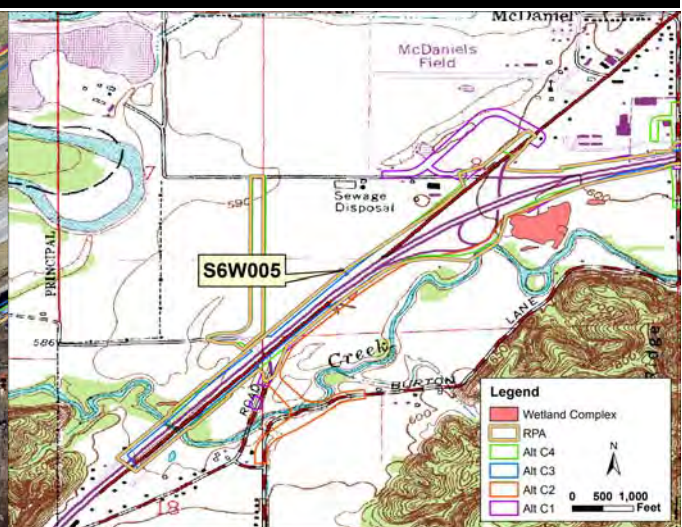
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W005



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.1109
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SW
Latitude: 39.400224
Longitude: -86.452072

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W005A	Deep Marsh	PEM	0.1109	poor	poor	poor	Alt C1	0.06	53.4%
							Alt C2	0.06	53.2%
							Alt C3	0.02	15.3%
							Alt C4	0.06	50.1%
							RPA	0.06	50.2%

Wetland S6W005



Polygon S6W005A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W005

Date of Site Visit: Thursday, May 14, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.1109

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.38

d. Value surrounding area adds to animal habitat: Valuable **Favorable** Low

Tier 2 SUMMARY:

Polygon ID S6W005A

a. **Indiana Wetland community type:** Deep Marsh/Shallow Open Water

b. Standing water - contribution to animal habitat: Valuable **Favorable** Neutral

c. Disturbances to site: road/railroad culvert

d. Exotic species rating: Good **Medium** Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium **Poor**

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 2 Good Medium **Poor**

c. Flood and storm water storage - numerical rank (5 max.): 1 Good Medium **Poor**

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: **Valuable** Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 2 Good Medium **Poor**

d. Average coefficient of conservatism: 0.5 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: Valuable **Neutral**

f. Mature trees as indicator of animal habitat: Valuable Favorable **Neutral**

g. Total hydrophytic taxa observed: 1 Good Medium **Poor**

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W005A	PEM1	0.1109

1.2 Site VisitTeam Members: Rusty YeagerAgency: Lochmueller GroupDate assessed: 5/14/2015Time assessed: 8:10:00 AMWeather conditions: cloudy, breezy

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1109Size of wetland complex: 0.1109**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>5</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>95</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 100 ___ approximate slope (percent ___ 1 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

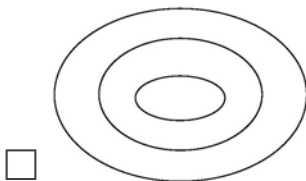
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

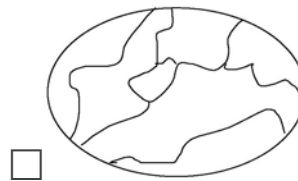
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|----------|
| a. <u><i>Phalaris arundinacea</i></u> | d. _____ |
| b. <u><i>Typha angustifolia</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known) _____
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ✓ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ___ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Verbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast) _____
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

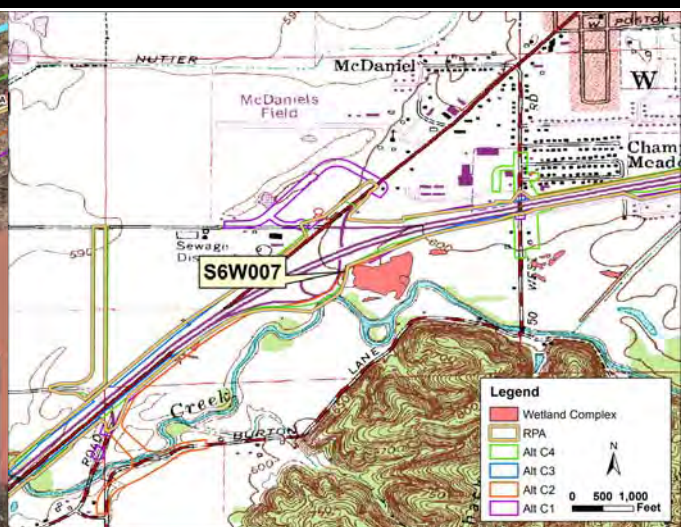
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W007



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.1721
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SE
Latitude: 39.402443
Longitude: -86.444983

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W007A	Floodplain Forest	PFO	0.1721	fair	fair	fair	Alt C1	0.06	33.6%
							Alt C2	0.06	33.6%
							Alt C3	0.17	100.0%
							Alt C4	0.17	100.0%
							RPA	0.17	100.0%

Wetland S6W007



Polygon S6W007A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W007A	PFO1	0.1721

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/12/2015Time assessed: 7:13:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1721Size of wetland complex: 0.1721**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

0 Native Vegetation - woodland 50 Road / highway / railroad bed / parking lot50 Native Vegetation - old field / scrub 0 Industrial0 Agricultural - tilled 0 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil ___ scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 10 approximate slope (percent 12)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

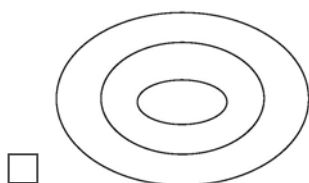
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

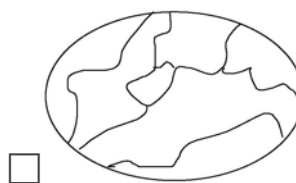
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. _____

d. _____

b. _____

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. *Acer negundo*

c. *Morus alba*

b. *Cornus sp.*

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Acer saccharinum*

c. *Platanus occidentalis*

b. *Fraxinus pennsylvanica*

d. *Celtis occidentalis*

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shiled fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalils) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known _____)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. =2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leafed monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ ✓ Indian hamp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ ✓ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aser puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ ✓ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ✓ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

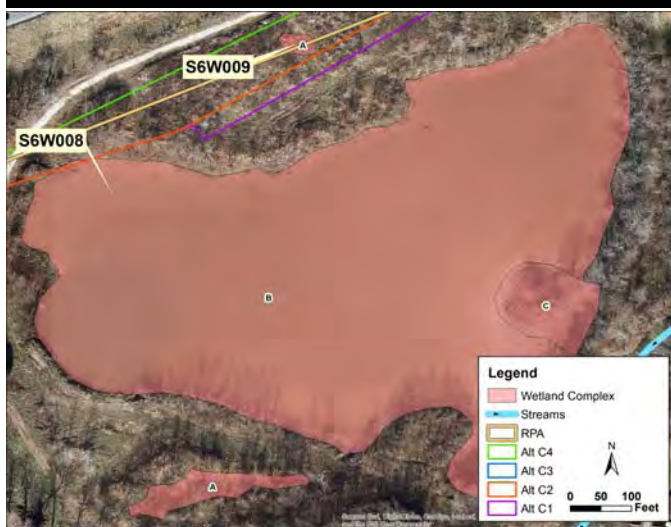
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ✓ elm, American (*Ulmus americana*) 3
- ✓ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W008



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 8.1381
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SE
Latitude: 39.402288
Longitude: -86.443205

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W008A	Floodplain Forest	PFO	0.1785	fair	fair	good	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W008B	Shallow Open Water	PUB	7.6507	fair	poor	good	Alt C1	0.01	0.1%
							Alt C2	0.01	0.1%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W008C	Floodplain Forest	PFO	0.3089	fair	poor	good	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W008



Polygon S6W008B



Polygon S6W008A

Wetland S6W008



Polygon S6W008C

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W008

Date of Site Visit: Tuesday, May 12, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 8.1381

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 1.00

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W008A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species:

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 5 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 4 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 14 Good Medium Poor

d. Average coefficient of conservatism: 1.8 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 33 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 2 SUMMARY:

Polygon ID S6W008B

a. Indiana Wetland community type:	Deep Marsh/Shallow Open Water		
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site:	_____		
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed:	None		
f. Special Community Type:	None		
g. Rare-Threatened-Endangered Species:	None		
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral	
b. Water quality protection - numerical rank (6 max.):	<u>5</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma	<u>4</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral	
b. Stratification as indicator of animal habitat:	Valuable		Neutral	
c. Number of dominant plant taxa observed:	<u>1</u>	Good	Medium	Poor
d. Average coefficient of conservatism:	<u>0</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral	
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral	
g. Total hydrophytic taxa observed:	<u>0</u>	Good	Medium	Poor
h. Number of indicator taxa:	<u>0</u>	Good	Medium	Poor

Tier 2 SUMMARY:

Polygon ID S6W008C

- a. Indiana Wetland community type: Floodplain Forest

- b. Standing water - contribution to animal habitat: Valuable Favorable Neutral
- c. Disturbances to site: _____
- d. Exotic species rating: Good Medium Poor
- e. Special Hydrologic Conditions Observed: _____
- f. Special Community Type: None

- g. Rare-Threatened-Endangered Species: None
- h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

- a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral
- b. Water quality protection - numerical rank (6 max.): 5 Good Medium Poor
- c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

- a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral
- b. Stratification as indicator of animal habitat: Valuable Neutral
- c. Number of dominant plant taxa observed: 3 Good Medium Poor
- d. Average coefficient of conservatism: 3.3 Good Medium Poor
- e. Tree canopy as indicator of animal habitat: Valuable Neutral
- f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral
- g. Total hydrophytic taxa observed: 3 Good Medium Poor
- h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W008A	PFO1	0.1785
S6W008B	PUBHx	7.6507
S6W008C	PFO1	0.3089

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/12/2015Time assessed: 5:00:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 8.1381Size of wetland complex: 8.1381**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

100 Native Vegetation - woodland 0 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 0 Industrial0 Agricultural - tilled 0 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities F Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 100 approximate slope (percent 1)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

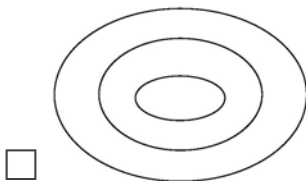
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

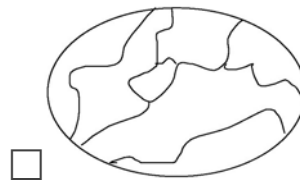
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|-------------------------------------|
| a. <u><i>Solidago gigantea</i></u> | d. <u><i>Helianthus sp.</i></u> |
| b. <u><i>Laportea canadensis</i></u> | e. <u><i>Impatiens capensis</i></u> |
| c. <u><i>Phalaris arundinacea</i></u> | f. <u><i>Cinna arundinacea</i></u> |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|------------------------------------|---------------------------------|
| a. <u><i>Acer saccharinum</i></u> | c. <u><i>Sambucus nigra</i></u> |
| b. <u><i>Populus deltoides</i></u> | d. <u><i>Acer negundo</i></u> |

Dominant Tree Species listed in order of relative abundance.

- | | |
|------------------------------------|--|
| a. <u><i>Acer saccharinum</i></u> | c. <u><i>Salix nigra</i></u> |
| b. <u><i>Populus deltoides</i></u> | d. <u><i>Platanus occidentalis</i></u> |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other
- ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ✓ ___ *bedstraw spp. (Galium) 6
- ✓ ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ✓ ___ bugleweed spp. (Lycopus) 5
- ✓ ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ✓ ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ✓ ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ✓ ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium* *Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ✓ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ✓ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ✓ tall coneflower (*Rudbeckia laciniata*) 3
- ✓ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ✓ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? Yes

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 100 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

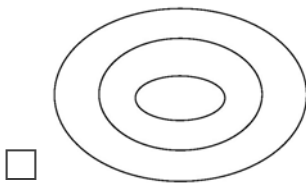
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

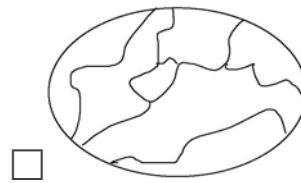
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- d. _____
- b. _____
- e. _____
- c. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- c. _____
- b. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. Salix interior
- c. _____
- b. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___*goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___*grass of Parnassus (*Parnassia glauca*) 10
- ___*Indian plantain (*Cacalia plantaginea*) 10
- ___ironweed spp. (*Vernonia*) 4
- ___jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___lizard's tail (*Saururus cernuus*) 4
- ___lobelia spp. (*Lobelia*) 4
- ___*marsh marigold (*Caltha palustris*) 7
- ___*moonseed (*Menispermum canadense*) 6
- ___primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___rose mallow spp. (*Hibiscus*) 4
- ___smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___sneezeweed (*Helenium autumnale*) 3
- ___stinging nettle (*Laportea canadensis*) 2
- ___*swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___*Virginia bluebells (*Mertensia virginica*) 6
- ___waterhemp (*Amaranthus tuberculatus*) 1
- ___wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___aven spp.: round, white (*Geum*) 2
- ___*buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___chervil (*Chaerophyllum procumbens*) 3
- ___*cowbane (*Oxypolis rigidior*) 7
- ___*great angelica (*Angelica atropurpurea*) 6
- ___hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___honestwort (*Cryptotaenia canadensis*) 3
- ___meadow rue spp. (*Thalictrum*) 5
- ___poison ivy (*Rhus radicans*) 1
- ___*queen-of-the prairie (*Filipendula rubra*) 9
- ___senna spp. (*Cassia*) 4
- ___swamp agrimony (*Agrimonia parviflora*) 4
- ___*swamp thistle (*Cirsium muticum*) 8
- ___tall coneflower (*Rudbeckia laciniata*) 3
- ___*water hemlock spp. (*Cicuta*) 7
- ___water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___bladdernut (*Staphylea trifolia*) 5
- ___buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___buttonbush (*Cephalanthus occidentalis*) 5
- ___dogwood, red-osier (*Cornus stolonifera*) 4
- ___*dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___dogwood, gray (*Cornus racemosa*) 2
- ___elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___*cranberry spp. (*Vaccinium*) 10
- ___*dwarf birch (*Betula pumila*) 10
- ___*highbush blueberry (*Vaccinium corymbosum*) 9
- ___*leatherleaf (*Chamaedaphne calyculata*) 10
- ___meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___*ninebark (*Physocarpus opulifolius*) 7
- ___*shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___spice bush (*Lindera benzoin*) 5
- ___*swamp dewberry (*Rubus hispidus*) 6
- ___*swamp holly and winterberry spp. (*Ilex*) 7
- ___swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___*tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___*ash, black (*Fraxinus nigra*) 7
- ___ash, green (*Fraxinus pensylvanica*) 3
- ___*ash, pumpkin (*Fraxinus tomentosa*) 8
- ___boxelder (*Acer negundo*) 1
- ___hickory, bitternut (*Carya cordiformis*) 5
- ___hickory, shellbark (*Carya laciniosa*) 8
- ___honey locust (*Gleditsia triacanthos*) 1
- ___*poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___red maple (*Acer rubrum*) 5
- ___silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___*alder, speckled (*Alnus rugosa*) 9
- ___river birch (*Betula nigra*) 2
- ___black, gum (*Nyssa sylvatica*) 5
- ___cottonwood, eastern (*Populus deltoides*) 1
- ___cottonwood, swamp (*Populus heterophylla*) 8
- ___elm, American (*Ulmus americana*) 3
- ___hackberry (*Celtis occidentalis*) 3
- ___ironwood (*Carpinus caroliniana*) 5
- ___oak, pin or white (*Quercus*) 4
- ___*oak, Shumard's, swamp chestnut, swamp white
- ___*pawpaw (*Asimina triloba*) 6
- ___*sugarberry (*Celtis laevigata*) 7
- ___sweet gum (*Liquidambar styraciflua*) 4
- ___sycamore, American (*Platanus occidentalis*) 3
- ___willow spp. (*Salix*) 1 sp. = 3
- ___additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 25 ___ approximate slope (percent ___ 0 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

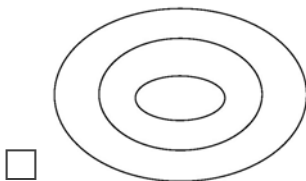
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

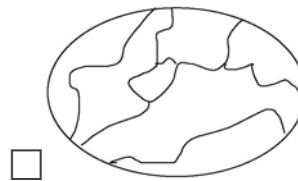
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. Justicia americana

d. _____

b. _____

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. Salix nigra

c. _____

b. Acer saccharinum

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known _____)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast _____)
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

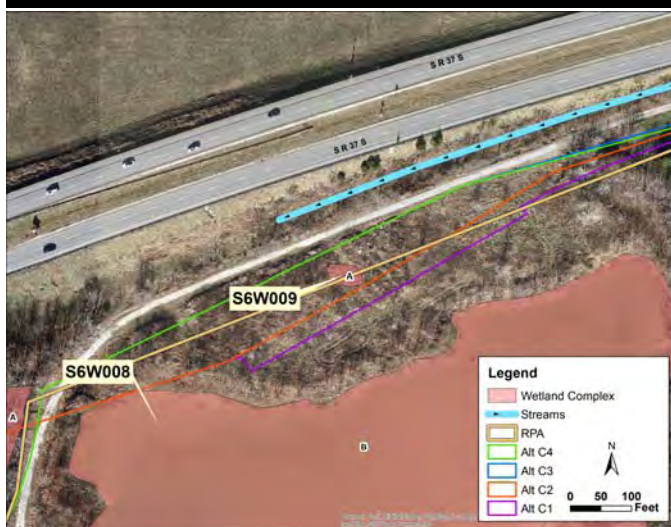
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

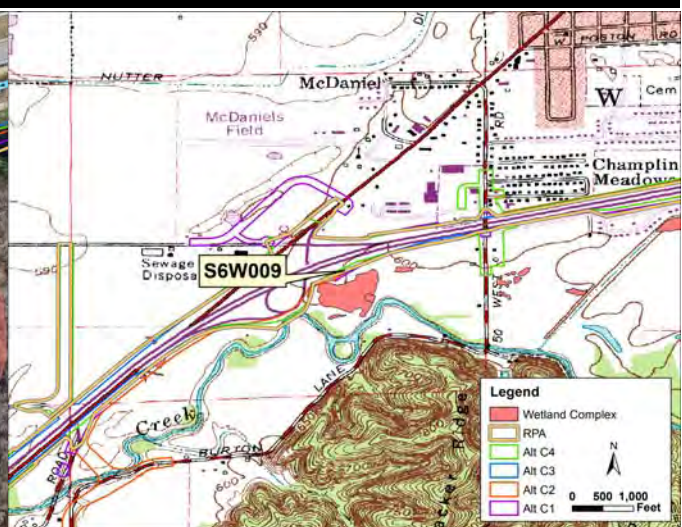
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W009



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0301
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 8
Quarter: SE
Latitude: 39.403258
Longitude: -86.443436

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W009A	Seasonally Flooded Basin	PEM	0.0301	poor	poor	good	Alt C1	0.03	100.0%
							Alt C2	0.03	100.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.02	66.1%

Wetland S6W009



Polygon S6W009A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W009

Date of Site Visit: Tuesday, May 12, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0301

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.80

d. Value surrounding area adds to animal habitat: **Valuable** Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W009A

a. **Indiana Wetland community type:** Seasonally Flooded Basin

b. Standing water - contribution to animal habitat: Valuable Favorable **Neutral**

c. Disturbances to site: other

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species:

h. Polygon Quality Descriptor: Good Medium **Poor**

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 4 Good **Medium** Poor

c. Flood and storm water storage - numerical rank (5 max.): 4 **Good** Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: **Valuable** Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 5 Good **Medium** Poor

d. Average coefficient of conservatism: 2.4 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: Valuable **Neutral**

f. Mature trees as indicator of animal habitat: Valuable Favorable **Neutral**

g. Total hydrophytic taxa observed: 18 Good **Medium** Poor

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W009A	PEM1	0.0301

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/12/2015Time assessed: 6:30:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0301Size of wetland complex: 0.0301**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>100</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 10 approximate slope (percent 2)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

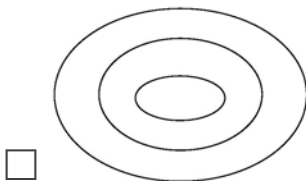
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

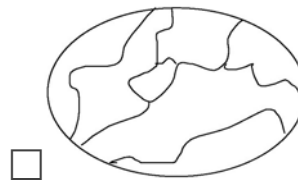
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|------------------------------------|---------------------------------|
| a. <u><i>Phyla lanceolata</i></u> | d. <u><i>Juncus dudleyi</i></u> |
| b. <u><i>Scirpus cyperinus</i></u> | e. _____ |
| c. <u><i>Juncus torreyi</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ✓ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ✓ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ✓ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

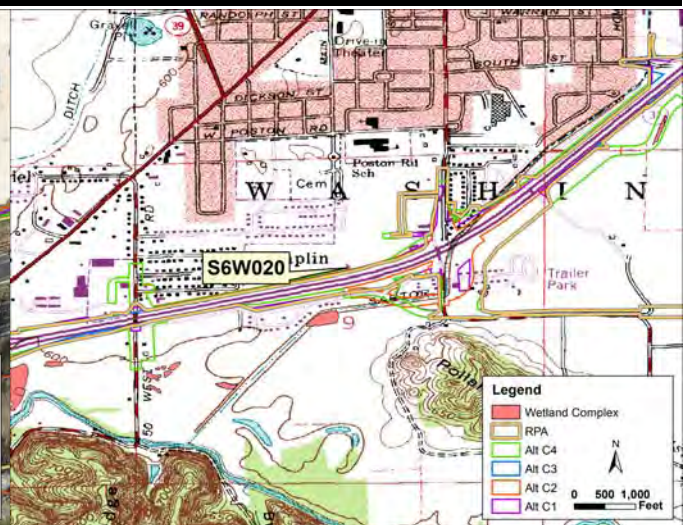
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W020



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0930
USACE Jurisdiction: No
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 9
Quarter: NE
Latitude: 39.407611
Longitude: -86.4276

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W020A	Shallow Marsh	PEM	0.0930	poor	poor	poor	Alt C1	0.00	0.0%
							Alt C2	0.00	2.8%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W020



Polygon S6W020A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W020A	PEM1	0.0930

1.2 Site VisitTeam Members: Rusty YeagerAgency: Lochmueller GroupDate assessed: 5/15/2015Time assessed: 2:28:00 AMWeather conditions: sunny, previous showers

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.093Size of wetland complex: 0.093**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>20</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>80</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificially Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shallow Marsh

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

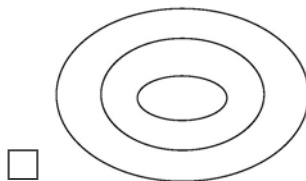
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

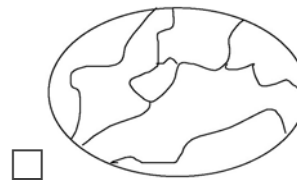
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|-------------------------------------|----------|
| a. <u><i>Typha angustifolia</i></u> | d. _____ |
| b. <u><i>Eleocharis sp.</i></u> | e. _____ |
| c. <u><i>Carex bebbii</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ✓ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ✓ rush spp. (Juncus) 4
 ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Verbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ✓ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ✓ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W021



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.2086
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 9
Quarter: NE
Latitude: 39.406523
Longitude: -86.42155

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W021A	Scrub-Carr	PSS	0.2086	poor	fair	fair	Alt C1	0.09	45.1%
							Alt C2	0.00	0.0%
							Alt C3	0.09	45.0%
							Alt C4	0.09	45.2%
							RPA	0.10	48.6%

Wetland S6W021



Polygon S6W021A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W021A	PSS1	0.2086

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/14/2015Time assessed: 3:45:00 PMWeather conditions: Cloudy

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.2086Size of wetland complex: 0.2086**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>100</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

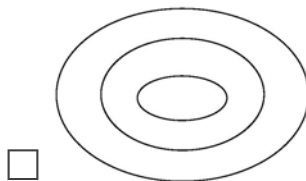
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

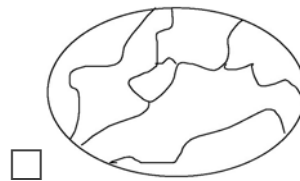
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|--|----------|
| a. <u><i>Typha latifolia</i></u> | d. _____ |
| b. <u><i>Symphotrichum lanceolatum</i></u> | e. _____ |
| c. <u><i>Solidago gigantea</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- horsetail, scouring rush spp. (Equisetum) 2
- *ferns: marsh shield fern spp. (Dryopteris) 7
- *cinnamon fern (Osmunda cinnamomea) 9
- *royal fern (Osmunda regalis) 8
- sensitive fern (Onoclea sensibilis) 4
- *other: species (if known)
- marsh club moss (Selaginella apoda) 4
- Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- *bladderwort spp. (Utricularia) 10
- coontail (Ceratophyllum demersum) 1
- duckweed spp. (Lemnaceae) 3
- *pondweed spp. (Potamogeton) 8
- curlyleaf pondweed (Potamogeton crispus) 0
- *water lily (Nymphaea tuberosa) 6
- water shield (Brasenia schreberi) 4
- *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- *beak rush spp (Rhynchospora) 10
 - blueflag iris (Iris virginica) 5
 - bulrush spp. (Scirpus / Schoenoplectus) 5
 - *bur reed spp. (Sparganium) 9
 - cat-tail spp. (Typha) 1
 - *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- a. *wild rice (Zizania aquatica) 10
 - b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - needle sedge spp. (Eleocharis) 1 sp. = 2
 - *additional = 8
 - nutsedge spp. (Cyperus) 2
 - *orchid spp. 10; species (if know _____)
 - rush spp. (Juncus) 4
 - sedge spp. (Carex) 1 sp. = 3 additional = 7
 - *spiderlily (Hymenocallis occidentalis) 9
 - sweet flag (Acorus calamus) 0
 - *3-way sedge (Dulichium arundinaceum) 10
 - *twig rush (Cladium mariscoides) 10
 - *umbrella sedge (Fuirena squarrosa) 10
 - wild hyacinth (Camassia scilloides) 5
 - *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- *arrow arum (Peltandra virginica) 6
- arrow-head spp. (Sagittaria) 4
- *green dragon (Arisaema dracontium) 6
- Jack-in-the-pulpit (Arisaema triphyllum) 4
- pickerel weed (Pontederia cordata) 5
- *skunk cabbage (Symplocarpus foetidus) 8
- *water arum (Calla palustris) 10
- water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- *bedstraw spp. (Galium) 6
- beggar's tick spp. (Bidens) 3
- blue vervain (Verbena hastata) 3
- boneset (Eupatorium perfoliatum) 4
- bugleweed spp. (Lycopus) 5
- clearweed spp. (Pilea) 3
- cup plant (Silphium perfoliatum) 4
- false nettle (Boehmeria cylindrica) 3
- *fen betony (Pedicularis lanceolata) 6
- *gentian spp. (Gentiana Gentianopsis) 8
- giant ragweed (Ambrosia trifida) 0
- Indian hemp (Apocynum cannabinum) 2
- Joe-pye weed spp. (Eupatorium) 5
- *loosestrife spp. (Lysimachia) 6
- meadow beauty (Rhexia virginica) 5
- mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- moneywort (Lysimachia nummularia) 0
- monkey flower spp. (Mimulus) 4
- nettle (Urtica procera) 1
- purple loosestrife (Lythrum salicaria) 0
- *richweed (Collinsonia canadensis) 8
- St. John's wort spp. (Hypericum/Triandem) 8
- sunflower sp. (Helianthus) 4
- *swamp loosestrife (Decodon verticillatus) 8
- swamp milkweed (Asclepias incarnata) 4
- toothcup spp. (Ammania Rotala) 2
- *turtlehead spp. (Chelone) 8
- virgin's bower (Clematis virginiana) 3
- water purslane (Ludwigia palustris) 3
- winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- American bellflower (Campanula americana) 4
- *asters: bristly aster (Aster puniceus) 7
- flat-topped aster (Aster umbellatus) 8
- other aster spp. (e.g. New England, panicled ast
- *black-eyed Susan (Rudbeckia fulgida) 8
- cardinal flower (Lobelia cardinalis) 4
- cress spp. (Cardamine) 4
- dock spp.: swamp, water, pale (Rumex) 4
- garlic mustard (Alliaria petiolata) 0
- golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W025



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.4435
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 3
Quarter: SW
Latitude: 39.413757
Longitude: -86.413662

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W025A	Scrub-Carr	PSS	0.0618	fair	poor	fair	Alt C1	0.06	100.0%
							Alt C2	0.06	100.0%
							Alt C3	0.06	100.0%
							Alt C4	0.06	100.0%
							RPA	0.00	0.0%
S6W025B	Shallow Open Water	PUB	0.3817	poor	fair	fair	Alt C1	0.38	100.0%
							Alt C2	0.38	100.0%
							Alt C3	0.38	100.0%
							Alt C4	0.38	100.0%
							RPA	0.00	0.0%

Wetland S6W025



Polygon S6W025A



Polygon S6W025B

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W025

Date of Site Visit: Friday, May 15, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.4435

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.44

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W025A

a. Indiana Wetland community type: Shrub-Carr

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: culvert

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 4 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 2 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 3 Good Medium Poor

d. Average coefficient of conservatism: 2 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 16 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 2 SUMMARY:**Polygon ID** S6W025B

a. Indiana Wetland community type: Deep Marsh/Shallow Open Water			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: <u>culvert</u>			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>2</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>2</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>2</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>1.5</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>8</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W025A	PSS1	0.0618
S6W025B	PUBHx	0.3817

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/15/2015Time assessed: 10:30:00 AMWeather conditions: overcast

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.4435Size of wetland complex: 0.4435**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

0 Native Vegetation - woodland 0 Road / highway / railroad bed / parking lot40 Native Vegetation - old field / scrub 0 Industrial60 Agricultural - tilled 0 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 25 approximate slope (percent 15)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

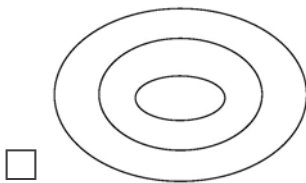
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

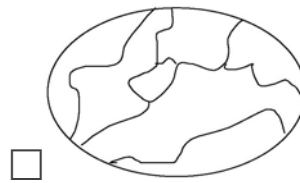
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. Carex tribuloides

d. _____

b. Solidago altissima

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. Salix interior

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ✓ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ___ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ✓ *bedstraw spp. (Galium) 6
 ✓ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- *ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 15 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

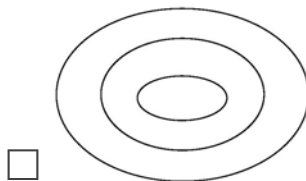
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

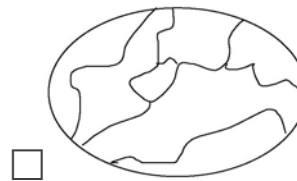
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|----------------------------------|----------|
| a. <u><i>Typha latifolia</i></u> | d. _____ |
| b. <u><i>Leersia sp.</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ✓ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ✓ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ✓ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Verbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

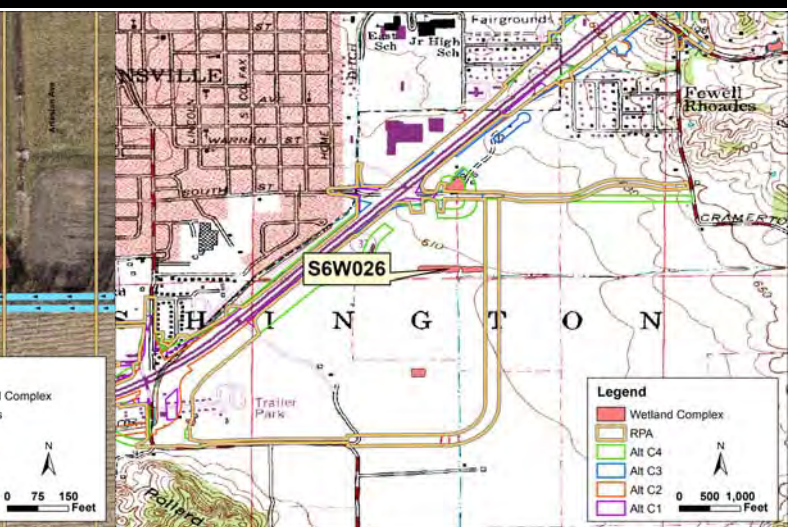
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W026



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 1.9653
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 3
Quarter: SW
Latitude: 39.41335
Longitude: -86.409999

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W026A	Shallow Marsh	PEM	1.9653	fair	fair	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.01	0.4%

Wetland S6W026



Polygon S6W026A



Polygon S6W026A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W026

Date of Site Visit: Friday, May 15, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 1.9653

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.40

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W026A

a. Indiana Wetland community type: Shallow Marsh

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 3 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 2 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 4 Good Medium Poor

d. Average coefficient of conservatism: 1.6 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 26 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W026A	PEM1	1.9653

1.2 Site VisitTeam Members: Rusty Yeager & Neal GoffinetAgency: Lochmueller GroupDate assessed: 5/15/2015Time assessed: 11:15:00 AMWeather conditions: Cloudy

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 1.9653Size of wetland complex: 1.9653**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

0 Native Vegetation - woodland 0 Road / highway / railroad bed / parking lot25 Native Vegetation - old field / scrub 0 Industrial50 Agricultural - tilled 25 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shallow Marsh

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 3

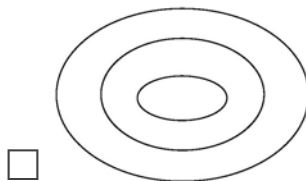
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

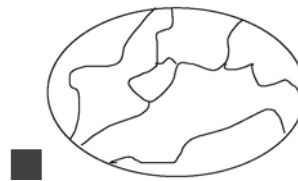
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---|----------|
| a. <u><i>Typha angustifolia</i></u> | d. _____ |
| b. <u><i>Eleocharis sp.</i></u> | e. _____ |
| c. <u><i>Symphyotrichum lanceolatum</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Typha angustifolia*
- b. *Symphotrichum lanceolatum*
- c. *Eleocharis sp.*
- d. *Fraxinus pennsylvanica*
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. *Salix interior*
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? typangPEM

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Typha angustifolia*
- b. *Equisetum hyemale*
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. *Salix interior*
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint,
 foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary
 grass (Phalaris, reed (Phragmites),
 annual grasses such as annual foxtail
 (Setaria) and barnyard grass (Echinochloa)
 ✓ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ✓ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ✓ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ✓ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ✓ *bedstraw spp. (Galium) 6
 ✓ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ✓ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ✓ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ✓ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ✓ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

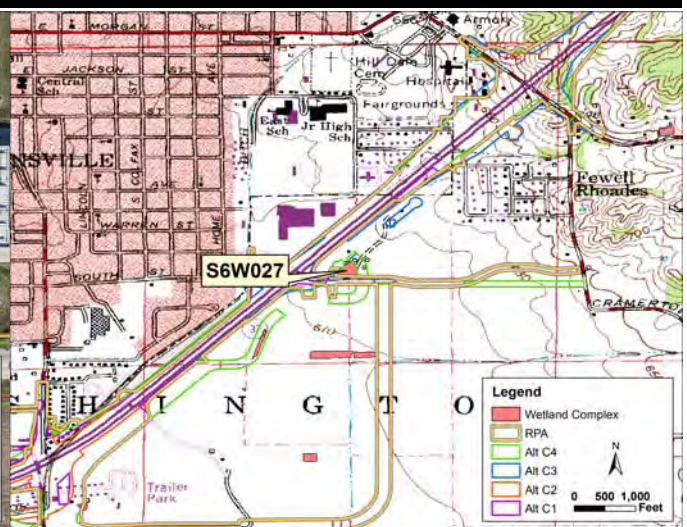
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ✓ additional sp. = 7

Wetland S6W027



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 1.2057
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 3
Quarter: SW
Latitude: 39.417087
Longitude: -86.409698

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W027A	Pond	PUB	1.2057	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.15	12.6%
							Alt C3	0.09	7.1%
							Alt C4	0.15	12.6%
							RPA	0.09	7.5%

Wetland S6W027

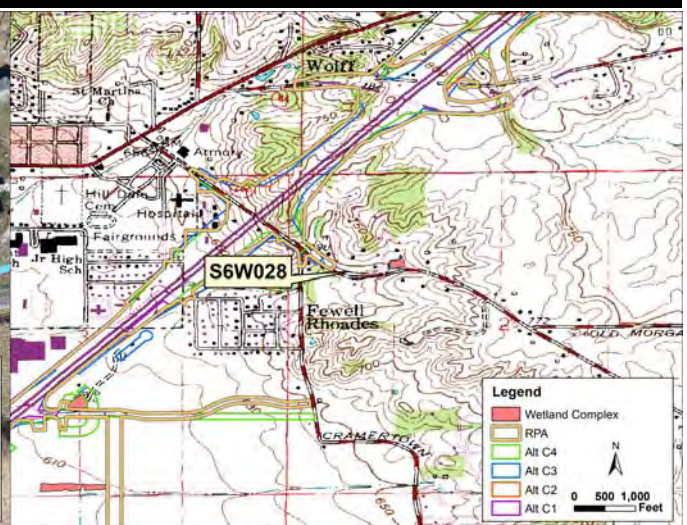


Polygon S6W027A

Wetland S6W028



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Indian Creek - Sand Creek
14-digit HUC: 05120201170070
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0411
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T11N
Range: R1E
Section: 2
Quarter: NW
Latitude: 39.422999
Longitude: -86.397487

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W028A	Seasonally Flooded Basin	PEM	0.0411	poor	poor	poor	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.2%

Wetland S6W028



Polygon S6W028A



Polygon S6W028A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Indian Creek - Sand Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W028A	PEM1	0.0411

1.2 Site VisitTeam Members: Rusty YeagerAgency: Lochmueller GroupDate assessed: 10/28/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0411Size of wetland complex: 0.0411**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

0 Native Vegetation - woodland 50 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 0 Industrial0 Agricultural - tilled 50 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water present, is the water greater than 2 meters in depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificially Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Disturbances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife S Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rare, Threatened or Endangered Species:

None observed or known to be present
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

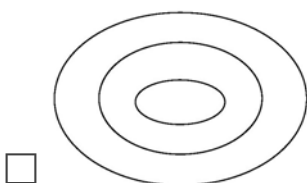
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

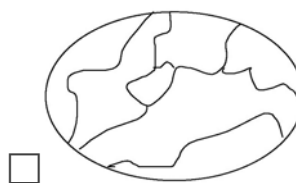
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Persicaria hydropiper*

d. _____

b. *Nasturtium officinale*

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ✓ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ✓ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ✓ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

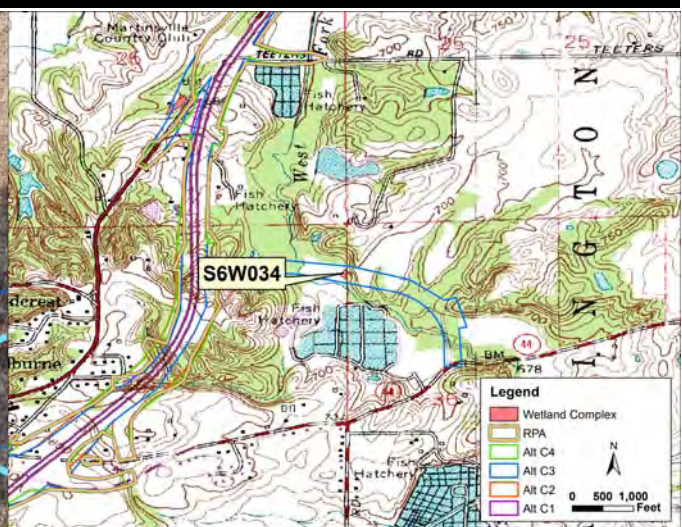
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W034



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.1539
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 35
Quarter: NE
Latitude: 39.439826
Longitude: -86.380902

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W034A	Wet Prairie	PEM	0.1539	poor	poor	good	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.15	100.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W034



Polygon S6W034A



Polygon S6W034A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W034

Date of Site Visit: Monday, October 19, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.1539

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.58

d. Value surrounding area adds to animal habitat: Valuable **Favorable** Low

Tier 2 SUMMARY:

Polygon ID S6W034A

a. **Indiana Wetland community type:** Wet Prairie

b. Standing water - contribution to animal habitat: Valuable Favorable **Neutral**

c. Disturbances to site: _____

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: **Good** Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 4 Good **Medium** Poor

c. Flood and storm water storage - numerical rank (5 max.): 4 **Good** Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: **Valuable** Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 5 Good Medium **Poor**

d. Average coefficient of conservatism: 1.2 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: Valuable **Neutral**

f. Mature trees as indicator of animal habitat: Valuable Favorable **Neutral**

g. Total hydrophytic taxa observed: 10 Good Medium **Poor**

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W034A	PEM1	0.1539

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/19/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1539Size of wetland complex: 0.1539**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>40</u>	Native Vegetation - woodland	<u>0</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>30</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>30</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Prairie

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 - Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 - Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 - Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 - Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

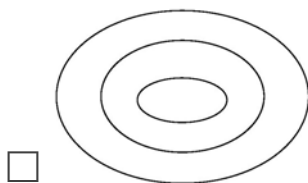
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

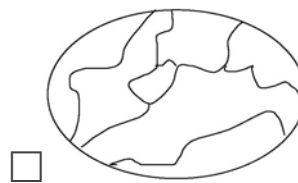
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|------------------------------------|-------------------------------------|
| a. <u><i>Leersia oryzoides</i></u> | d. <u><i>Cyperus esculentus</i></u> |
| b. <u><i>Marrubium vulgare</i></u> | e. <u><i>Juncus effusus</i></u> |
| c. <u><i>Equisetum arvense</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- horsetail, scouring rush spp. (Equisetum) 2
- *ferns: marsh shield fern spp. (Dryopteris) 7
- *cinnamon fern (Osmunda cinnamomea) 9
- *royal fern (Osmunda regalis) 8
- sensitive fern (Onoclea sensibilis) 4
- *other: species (if known)
- marsh club moss (Selaginella apoda) 4
- Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- *bladderwort spp. (Utricularia) 10
- coontail (Ceratophyllum demersum) 1
- duckweed spp. (Lemnaceae) 3
- *pondweed spp. (Potamogeton) 8
- curlyleaf pondweed (Potamogeton crispus) 0
- *water lily (Nymphaea tuberosa) 6
- water shield (Brasenia schreberi) 4
- *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- *beak rush spp (Rhynchospora) 10
- blueflag iris (Iris virginica) 5
- bulrush spp. (Scirpus / Schoenoplectus) 5
- *bur reed spp. (Sparganium) 9
- cat-tail spp. (Typha) 1
- *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - a. *wild rice (Zizania aquatica) 10
 - b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - needle sedge spp. (Eleocharis) 1 sp. = 2
 - *additional = 8
 - nutsedge spp. (Cyperus) 2
 - *orchid spp. 10; species (if know _____)
 - rush spp. (Juncus) 4
 - sedge spp. (Carex) 1 sp. = 3 additional = 7
 - *spiderlily (Hymenocallis occidentalis) 9
 - sweet flag (Acorus calamus) 0
 - *3-way sedge (Dulichium arundinaceum) 10
 - *twig rush (Cladium mariscoides) 10
 - *umbrella sedge (Fuirena squarrosa) 10
 - wild hyacinth (Camassia scilloides) 5
 - *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- *arrow arum (Peltandra virginica) 6
- arrow-head spp. (Sagittaria) 4
- *green dragon (Arisaema dracontium) 6
- Jack-in-the-pulpit (Arisaema triphyllum) 4
- pickerel weed (Pontederia cordata) 5
- *skunk cabbage (Symplocarpus foetidus) 8
- *water arum (Calla palustris) 10
- water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- *bedstraw spp. (Galium) 6
- beggar's tick spp. (Bidens) 3
- blue vervain (Berbena hastata) 3
- boneset (Eupatorium perfoliatum) 4
- bugleweed spp. (Lycopus) 5
- clearweed spp. (Pilea) 3
- cup plant (Silphium perfoliatum) 4
- false nettle (Boehmeria cylindrica) 3
- *fen betony (Pedicularis lanceolata) 6
- *gentian spp. (Gentiana Gentianopsis) 8
- giant ragweed (Ambrosia trifida) 0
- Indian hemp (Apocynum cannabinum) 2
- Joe-pye weed spp. (Eupatorium) 5
- *loosestrife spp. (Lysimachia) 6
- meadow beauty (Rhexia virginica) 5
- mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- moneywort (Lysimachia nummularia) 0
- monkey flower spp. (Mimulus) 4
- nettle (Urtica procera) 1
- purple loosestrife (Lythrum salicaria) 0
- *richweed (Collinsonia canadensis) 8
- St. John's wort spp. (Hypericum/Triandem) 8
- sunflower sp. (Helianthus) 4
- *swamp loosestrife (Decodon verticillatus) 8
- swamp milkweed (Asclepias incarnata) 4
- toothcup spp. (Ammania Rotala) 2
- *turtlehead spp. (Chelone) 8
- virgin's bower (Clematis virginiana) 3
- water purslane (Ludwigia palustris) 3
- winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- American bellflower (Campanula americana) 4
- *asters: bristly aster (Aster puniceus) 7
- flat-topped aster (Aster umbellatus) 8
- other aster spp. (e.g. New England, panicled ast
- *black-eyed Susan (Rudbeckia fulgida) 8
- cardinal flower (Lobelia cardinalis) 4
- cress spp. (Cardamine) 4
- dock spp.: swamp, water, pale (Rumex) 4
- garlic mustard (Alliaria petiolata) 0
- golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

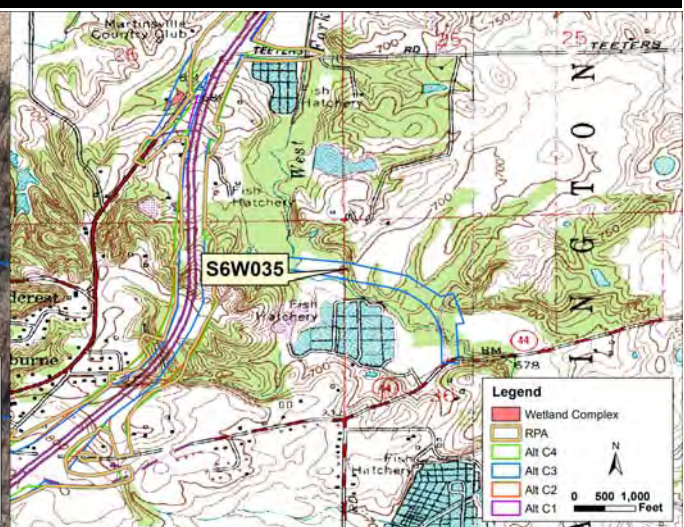
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W035



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0216
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 36
Quarter: NW
Latitude: 39.439855
Longitude: -86.380637

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W035A	Scrub-Carr	PSS	0.0216	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.02	100.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W035



Polygon S6W035A



Polygon S6W035A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W035A	PSS1	0.0216

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/19/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0216Size of wetland complex: 0.0216**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>40</u>	Native Vegetation - woodland	<u>0</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>30</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>30</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

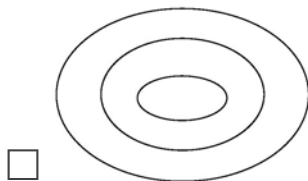
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

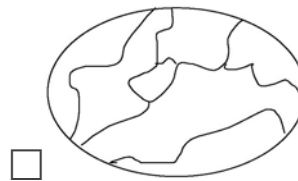
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|----------|----------|
| a. _____ | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|-----------------------|----------|
| a. <u>Acer rubrum</u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ✓ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

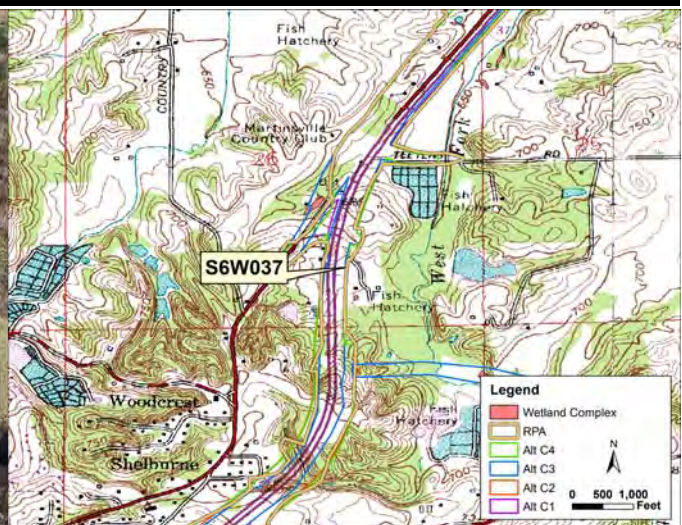
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ✓ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W037



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0603
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 26
Quarter: SE
Latitude: 39.444538
Longitude: -86.386915

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W037A	Wet Meadow	PEM	0.0603	poor	poor	fair	Alt C1	0.06	100.0%
							Alt C2	0.05	89.6%
							Alt C3	0.01	9.5%
							Alt C4	0.05	89.2%
							RPA	0.05	89.6%

Wetland S6W037



Polygon S6W037A



Polygon S6W037A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W037

Date of Site Visit: Thursday, October 01, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0603

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.23

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W037A

a. **Indiana Wetland community type:** Wet Meadow

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: ditches road/railroad

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 2 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 ma 2 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 4 Good Medium Poor

d. Average coefficient of conservatism: 1 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 5 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W037A	PEM1	0.0603

1.2 Site VisitTeam Members: R. Hook, R. ConnollyAgency: HNTBDate assessed: 10/1/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0603Size of wetland complex: 0.0603**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>70</u> Road / highway / railroad bed / parking lot
<u>15</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>15</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
- Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
- Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

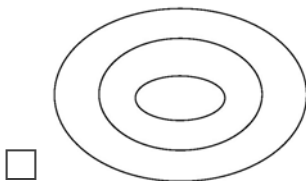
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

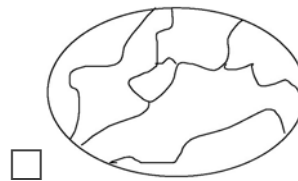
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|------------------------------------|----------|
| a. <u><i>Persicaria sp.</i></u> | d. _____ |
| b. <u><i>Typha latifolia</i></u> | e. _____ |
| c. <u><i>Equisetum hyemale</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- horsetail, scouring rush spp. (Equisetum) 2
- *ferns: marsh shield fern spp. (Dryopteris) 7
- *cinnamon fern (Osmunda cinnamomea) 9
- *royal fern (Osmunda regalis) 8
- sensitive fern (Onoclea sensibilis) 4
- *other: species (if known)
- marsh club moss (Selaginella apoda) 4
- Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- *bladderwort spp. (Utricularia) 10
- coontail (Ceratophyllum demersum) 1
- duckweed spp. (Lemnaceae) 3
- *pondweed spp. (Potamogeton) 8
- curlyleaf pondweed (Potamogeton crispus) 0
- *water lily (Nymphaea tuberosa) 6
- water shield (Brasenia schreberi) 4
- *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- *beak rush spp (Rhynchospora) 10
- blueflag iris (Iris virginica) 5
- bulrush spp. (Scirpus / Schoenoplectus) 5
- *bur reed spp. (Sparganium) 9
- cat-tail spp. (Typha) 1
- *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- a. *wild rice (Zizania aquatica) 10
- b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- needle sedge spp. (Eleocharis) 1 sp. = 2
_____ *additional = 8
- nutsedge spp. (Cyperus) 2
- *orchid spp. 10; species (if know _____)
- rush spp. (Juncus) 4
- sedge spp. (Carex) 1 sp. = 3 _____ additional = 7
- *spiderlily (Hymenocallis occidentalis) 9
- sweet flag (Acorus calamus) 0
- *3-way sedge (Dulichium arundinaceum) 10
- *twig rush (Cladium mariscoides) 10
- *umbrella sedge (Fuirena squarrosa) 10
- wild hyacinth (Camassia scilloides) 5
- *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- *arrow arum (Peltandra virginica) 6
- arrow-head spp. (Sagittaria) 4
- *green dragon (Arisaema dracontium) 6
- Jack-in-the-pulpit (Arisaema triphyllum) 4
- pickerel weed (Pontederia cordata) 5
- *skunk cabbage (Symplocarpus foetidus) 8
- *water arum (Calla palustris) 10
- water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- *bedstraw spp. (Galium) 6
- beggar's tick spp. (Bidens) 3
- blue vervain (Verbena hastata) 3
- boneset (Eupatorium perfoliatum) 4
- bugleweed spp. (Lycopus) 5
- clearweed spp. (Pilea) 3
- cup plant (Silphium perfoliatum) 4
- false nettle (Boehmeria cylindrica) 3
- *fen betony (Pedicularis lanceolata) 6
- *gentian spp. (Gentiana Gentianopsis) 8
- giant ragweed (Ambrosia trifida) 0
- Indian hemp (Apocynum cannabinum) 2
- Joe-pye weed spp. (Eupatorium) 5
- *loosestrife spp. (Lysimachia) 6
- meadow beauty (Rhexia virginica) 5
- mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- moneywort (Lysimachia nummularia) 0
- monkey flower spp. (Mimulus) 4
- nettle (Urtica procera) 1
- purple loosestrife (Lythrum salicaria) 0
- *richweed (Collinsonia canadensis) 8
- St. John's wort spp. (Hypericum/Triandem) 8
- sunflower sp. (Helianthus) 4
- *swamp loosestrife (Decodon verticillatus) 8
- swamp milkweed (Asclepias incarnata) 4
- toothcup spp. (Ammania Rotala) 2
- *turtlehead spp. (Chelone) 8
- virgin's bower (Clematis virginiana) 3
- water purslane (Ludwigia palustris) 3
- winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- American bellflower (Campanula americana) 4
- *asters: bristly aster (Aster puniceus) 7
- flat-topped aster (Aster umbellatus) 8
- other aster spp. (e.g. New England, panicled ast
- *black-eyed Susan (Rudbeckia fulgida) 8
- cardinal flower (Lobelia cardinalis) 4
- cress spp. (Cardamine) 4
- dock spp.: swamp, water, pale (Rumex) 4
- garlic mustard (Alliaria petiolata) 0
- golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

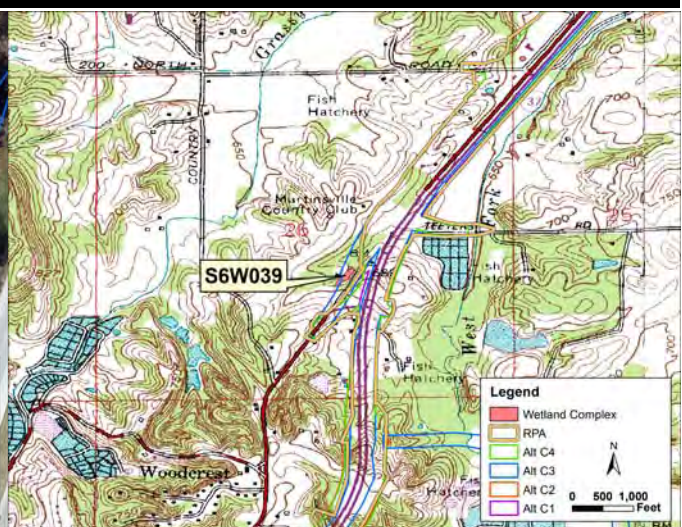
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W039



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.6110
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

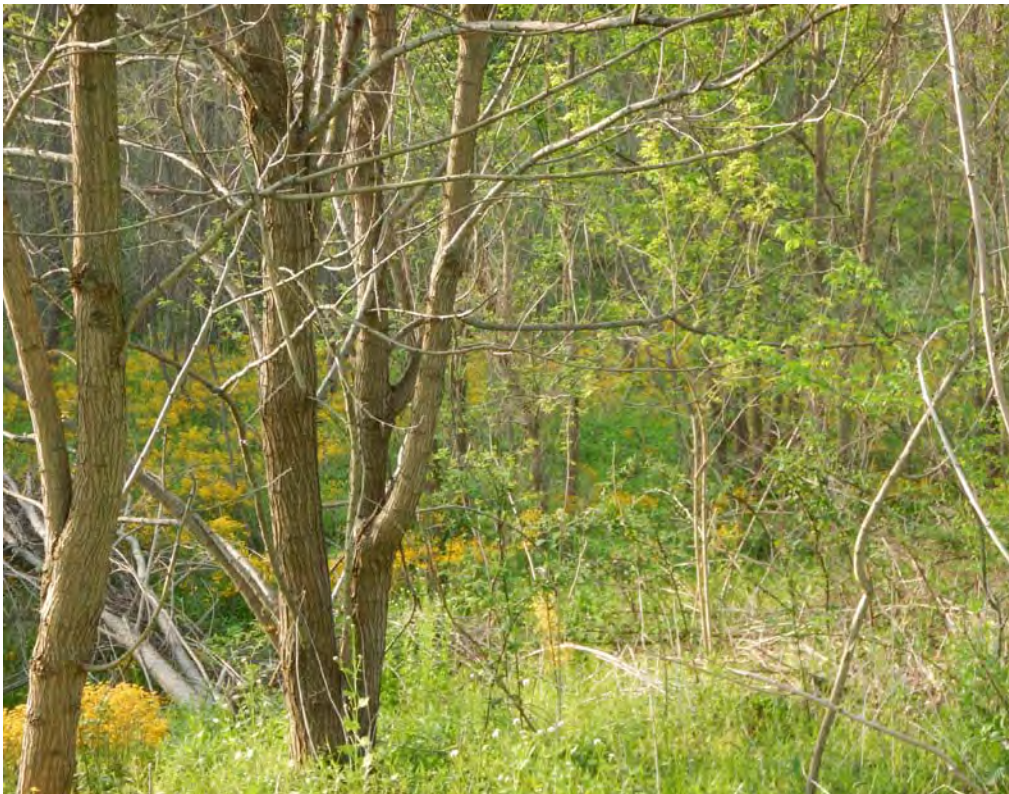
Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 26
Quarter: SE
Latitude: 39.44745
Longitude: -86.388379

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W039A	Shallow Marsh	PEM	0.6110	fair	poor	fair	Alt C1	0.45	73.6%
							Alt C2	0.00	0.0%
							Alt C3	0.45	73.6%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W039



Polygon S6W039A



Polygon S6W039A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W039A	PEM1	0.6110

1.2 Site VisitTeam Members: R. Hook, R. Connolly (Originally JFNew)Agency: HNTBDate assessed: 10/1/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.611Size of wetland complex: 0.611**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u>	Native Vegetation - woodland	<u>20</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>20</u>	Commercial or multifamily residential
<u>60</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shallow Marsh

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil ___ scattered frequent

3a.2 Water Quality Protection Questions:

1. N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 - Y 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 - Y 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 - Y 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 - N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

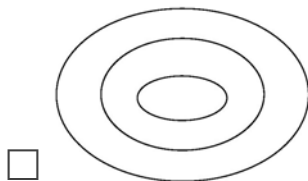
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

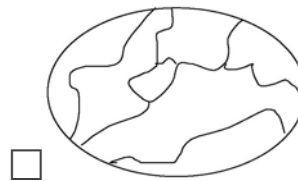
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Impatiens capensis* _____

d. _____

b. *Leersia oryzoides* _____

e. _____

c. *Solidago sp.* _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Salix nigra* _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ✓ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ✓ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*)
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halbredleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

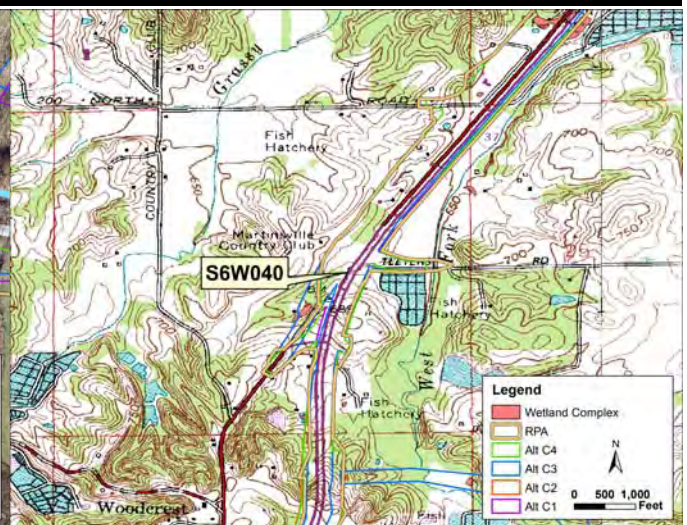
Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

Wetland S6W040



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0396
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 26
Quarter: SE
Latitude: 39.448906
Longitude: -86.386854

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W040A	Wet Meadow	PEM	0.0396	poor	poor	fair	Alt C1	0.04	100.0%
							Alt C2	0.04	100.0%
							Alt C3	0.04	100.0%
							Alt C4	0.04	100.0%
							RPA	0.04	100.0%

Wetland S6W040



Polygon S6W040A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W040A	PEM1	0.0396

1.2 Site VisitTeam Members: R. Hook, R. ConnollyAgency: HNTBDate assessed: 10/1/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0396Size of wetland complex: 0.0396**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u>	Native Vegetation - woodland	<u>20</u>	Road / highway / railroad bed / parking lot
<u>10</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>70</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

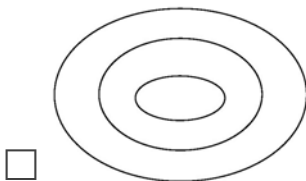
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

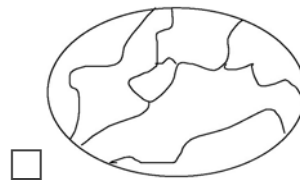
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersions diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---|-------------------------------|
| a. <u><i>Impatiens sp.</i></u> | d. <u><i>Solidago sp.</i></u> |
| b. <u><i>Leersia oryzoides</i></u> | e. _____ |
| c. <u><i>Eupatorium perfoliatum</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ✓ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ✓ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ✓ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*)
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

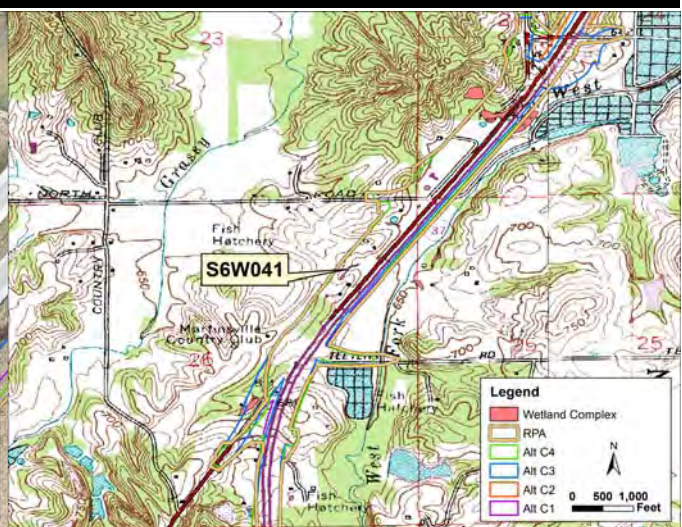
Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

Wetland S6W041



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.1449
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 26
Quarter: NE
Latitude: 39.453634
Longitude: -86.38392

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W041A	Sedge Meadow	PEM	0.1449	poor	poor	fair	Alt C1	0.14	100.0%
							Alt C2	0.14	100.0%
							Alt C3	0.14	100.0%
							Alt C4	0.14	100.0%
							RPA	0.14	100.0%

Wetland S6W041



Polygon S6W041A



Polygon S6W041A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W041

Date of Site Visit: Thursday, October 01, 2015

Tier 1 Summary:

- a. Total Wetland Area (acres): 0.1449
- b. Wetland size and connectivity - contribution to animal habitat:
- | | | | |
|----------|----------------|-----------|---------|
| Valuable | More Favorable | Favorable | Neutral |
|----------|----------------|-----------|---------|
- c. Surrounding land use - numerical rank (max. = 1): 0.45
- d. Value surrounding area adds to animal habitat:
- | | | |
|----------|-----------|-----|
| Valuable | Favorable | Low |
|----------|-----------|-----|

Tier 2 SUMMARY:

Polygon ID S6W041A

- a. **Indiana Wetland community type:** Sedge Meadow
- b. Standing water - contribution to animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- c. Disturbances to site: _____
- d. Exotic species rating:
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- e. Special Hydrologic Conditions Observed: None
- f. Special Community Type: None
- g. Rare-Threatened-Endangered Species: None
- h. Polygon Quality Descriptor:
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 3A SUMMARY:

- a. Dead woody material as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- b. Water quality protection - numerical rank (6 max.): 2
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- c. Flood and storm water storage - numerical rank (5 ma 2
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 3B SUMMARY:

- a. Zonation and interspersions as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- b. Stratification as indicator of animal habitat:
- | | | |
|----------|--|---------|
| Valuable | | Neutral |
|----------|--|---------|
- c. Number of dominant plant taxa observed: 3
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- d. Average coefficient of conservatism: 1.3
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- e. Tree canopy as indicator of animal habitat:
- | | | |
|----------|--|---------|
| Valuable | | Neutral |
|----------|--|---------|
- f. Mature trees as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- g. Total hydrophytic taxa observed: 4
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- h. Number of indicator taxa: 0
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W041A	PEM1	0.1449

1.2 Site VisitTeam Members: R. Hook, R. ConnollyAgency: HNTBDate assessed: 10/1/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1449Size of wetland complex: 0.1449**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>10</u>	Native Vegetation - woodland	<u>10</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>70</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>10</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Sedge Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 - Y 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 - Y 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 - Y 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 - Y 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

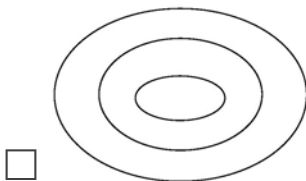
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

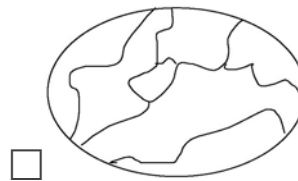
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Cyperus esculentus* _____

d. _____

b. *Poa sp.* _____

e. _____

c. *Vernonia missurica* _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ✓ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ✓ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

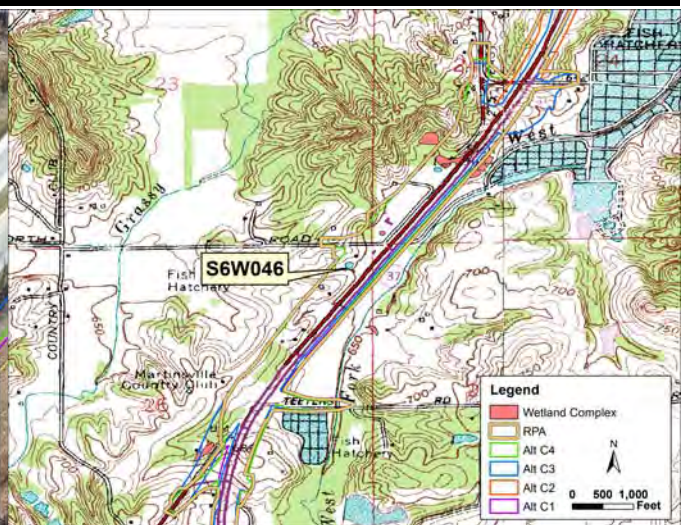
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W046



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.1031
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 26
Quarter: NE
Latitude: 39.455551
Longitude: -86.382046

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W046A	Wet Prairie	PEM	0.1031	fair	poor	fair	Alt C1	0.10	100.0%
							Alt C2	0.10	100.0%
							Alt C3	0.10	100.0%
							Alt C4	0.10	100.0%
							RPA	0.10	100.0%

Wetland S6W046



Polygon S6W046A



Polygon S6W046A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W046A	PEM1	0.1031

1.2 Site VisitTeam Members: R. Hook/R. ConnollyAgency: HNTBDate assessed: 10/1/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1031Size of wetland complex: 0.1031**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>40</u>	Native Vegetation - woodland	<u>10</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>30</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>10</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Prairie

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

F Garlic Mustard Glossy Buckthorn
 Phragmites C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 20 approximate slope (percent 1)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

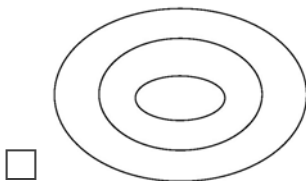
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

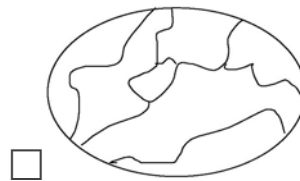
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Solidago sp.*
- b. *Phalaris arundinacea*
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ✓ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ✓ garlic mustard (Alliaria petiolata) 0
- ✓ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ✓ *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

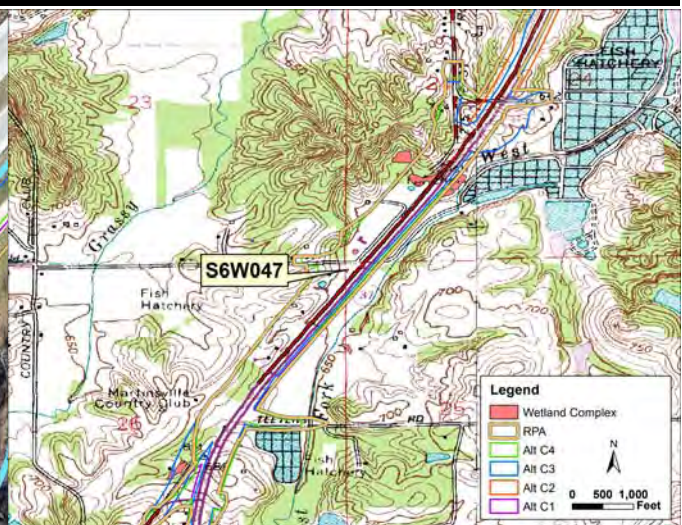
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W047



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 0.0277
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 25
Quarter: NE
Latitude: 39.456371
Longitude: -86.380799

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W047A	Wet Meadow	PEM	0.0277	poor	poor	fair	Alt C1	0.03	100.0%
							Alt C2	0.03	100.0%
							Alt C3	0.03	100.0%
							Alt C4	0.03	100.0%
							RPA	0.03	100.0%

Wetland S6W047



Polygon S6W047A



Polygon S6W047A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W047A	PEM1B	0.0277

1.2 Site VisitTeam Members: R. Hook, R. Connolly (originally JFNew)Agency: HNTBDate assessed: 11/1/2015

Time assessed: _____

Weather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

Has been dry

1.3 Wetland SizeSize of site under assessment: 0.0277Size of wetland complex: 0.0277**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u>	Native Vegetation - woodland	<u>20</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>20</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>60</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
- Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
- Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

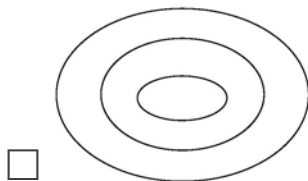
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

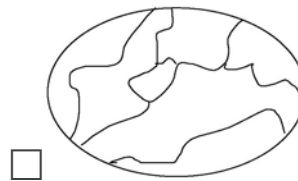
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Leersia oryzoides*
- b. *Typha latifolia*
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ ✓ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ✓ *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

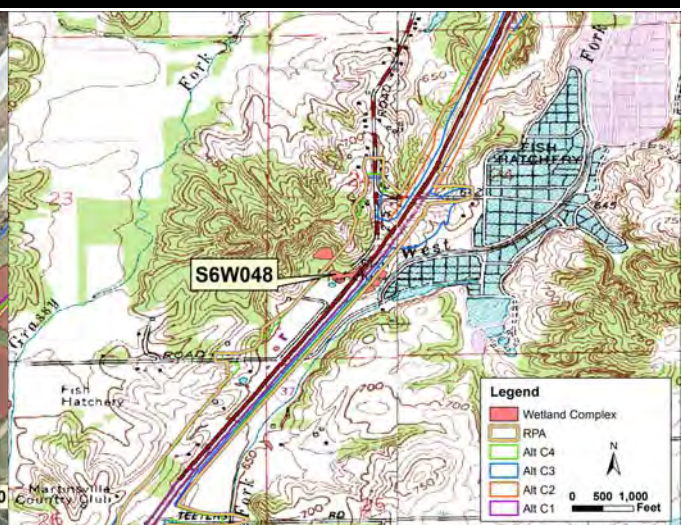
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W048



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 1.0454
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 24
Quarter: SW
Latitude: 39.460496
Longitude: -86.377517

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W048A	Seasonally Flooded Basin	PEM	0.1075	poor	poor	fair	Alt C1	0.11	100.0%
							Alt C2	0.11	100.0%
							Alt C3	0.11	100.0%
							Alt C4	0.11	100.0%
							RPA	0.11	99.9%
S6W048B	Swamp Forest	PFO	0.7474	fair	poor	fair	Alt C1	0.75	100.0%
							Alt C2	0.75	100.0%
							Alt C3	0.75	100.0%
							Alt C4	0.75	100.0%
							RPA	0.75	100.0%
S6W048C	Shallow Open Water	PUB	0.0557	poor	poor	fair	Alt C1	0.06	100.0%
							Alt C2	0.06	100.0%
							Alt C3	0.06	100.0%
							Alt C4	0.06	100.0%
							RPA	0.06	100.0%
S6W048D	Seasonally Flooded Basin	PEM	0.1348	poor	poor	poor	Alt C1	0.13	100.0%
							Alt C2	0.13	100.0%
							Alt C3	0.13	100.0%
							Alt C4	0.13	100.0%
							RPA	0.13	100.0%

Wetland S6W048



Polygon S6W048A



Polygon S6W048A

Wetland S6W048



Polygon S6W048D

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W048

Date of Site Visit: Tuesday, October 06, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 1.0454

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.60

d. Value surrounding area adds to animal habitat: Valuable **Favorable** Low

Tier 2 SUMMARY:

Polygon ID S6W048A

a. **Indiana Wetland community type:** Seasonally Flooded Basin

b. Standing water - contribution to animal habitat: Valuable **Favorable** Neutral

c. Disturbances to site: _____

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good **Medium** Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 5 **Good** Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 2 Good **Medium** Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable **Neutral**

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 1 Good **Medium** Poor

d. Average coefficient of conservatism: 2.6 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: Valuable **Neutral**

f. Mature trees as indicator of animal habitat: Valuable Favorable **Neutral**

g. Total hydrophytic taxa observed: 11 Good Medium **Poor**

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 2 SUMMARY:**Polygon ID** S6W048B

a. Indiana Wetland community type: <u>Swamp Forest</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: <u>dams road/railroad</u>			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>Seeps</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>3</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>2</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>5</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>2.6</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>11</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 2 SUMMARY:**Polygon ID** S6W048C

a. Indiana Wetland community type: <u>Deep Marsh/Shallow Open Water</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: <u>dams</u>			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>3</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>2</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>1</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>3</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>1</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 2 SUMMARY:**Polygon ID** S6W048D

a. Indiana Wetland community type: <u>Seasonally Flooded Basin</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: <u>ditches culvert other</u>			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>1</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>1</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>2</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>2.5</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>15</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W048A	PEM1	0.1075
S6W048B	PFO1	0.7474
S6W048C	PUBHx	0.0557
S6W048D	PEM1	0.1348

1.2 Site VisitTeam Members: R. Hook, R. Connolly (originally JFNew)Agency: HNTBDate assessed: 10/6/2015

Time assessed: _____

Weather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

Dry season**1.3 Wetland Size**Size of site under assessment: 1.0454Size of wetland complex: 1.0454**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

50 Native Vegetation - woodland 25 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 0 Industrial0 Agricultural - tilled 25 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 - Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 - Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 100 approximate slope (percent 2)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 - Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 - Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

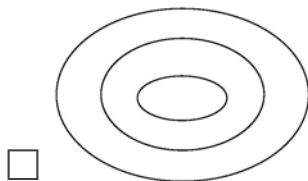
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

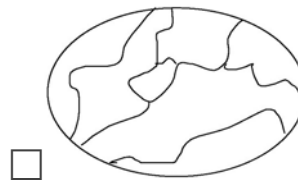
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|----------------------------------|----------|
| a. <u><i>Typha latifolia</i></u> | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ✓ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ✓ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ✓ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Swamp Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife F Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

Seeps

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

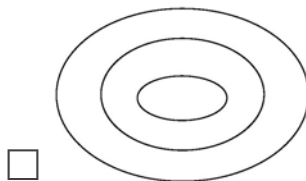
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

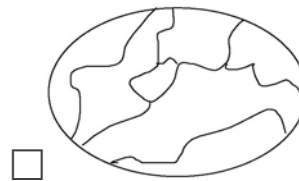
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|-------------------------------------|----------|
| a. <u><i>Leersia oryzoides</i></u> | d. _____ |
| b. <u><i>Impatiens capensis</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------------------------------|----------|
| a. <u><i>Lindera benzoin</i></u> | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|---|----------|
| a. <u><i>Fraxinus pennsylvanica</i></u> | c. _____ |
| b. <u><i>Platanus occidentalis</i></u> | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known) _____
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ✓ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know) _____
 ___ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ✓ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ✓ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ✓ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ✓ other aster spp. (e.g. New England, panicled ast) _____
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ✓ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 100 approximate slope (percent 2)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

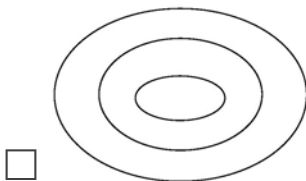
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

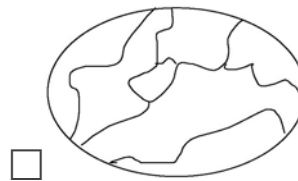
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|-----------------------|----------|
| a. <u>Lemna minor</u> | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

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- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___*goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___*grass of Parnassus (*Parnassia glauca*) 10
- ___*Indian plantain (*Cacalia plantaginea*) 10
- ___ironweed spp. (*Vernonia*) 4
- ___jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___lizard's tail (*Saururus cernuus*) 4
- ___lobelia spp. (*Lobelia*) 4
- ___*marsh marigold (*Caltha palustris*) 7
- ___*moonseed (*Menispermum canadense*) 6
- ___primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___rose mallow spp. (*Hibiscus*) 4
- ___smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___sneezeweed (*Helenium autumnale*) 3
- ___stinging nettle (*Laportea canadensis*) 2
- ___*swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___*Virginia bluebells (*Mertensia virginica*) 6
- ___waterhemp (*Amaranthus tuberculatus*) 1
- ___wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___aven spp.: round, white (*Geum*) 2
- ___*buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___chervil (*Chaerophyllum procumbens*) 3
- ___*cowbane (*Oxypolis rigidior*) 7
- ___*great angelica (*Angelica atropurpurea*) 6
- ___hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___honestwort (*Cryptotaenia canadensis*) 3
- ___meadow rue spp. (*Thalictrum*) 5
- ___poison ivy (*Rhus radicans*) 1
- ___*queen-of-the prairie (*Filipendula rubra*) 9
- ___senna spp. (*Cassia*) 4
- ___swamp agrimony (*Agrimonia parviflora*) 4
- ___*swamp thistle (*Cirsium muticum*) 8
- ___tall coneflower (*Rudbeckia laciniata*) 3
- ___*water hemlock spp. (*Cicuta*) 7
- ___water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___bladdernut (*Staphylea trifolia*) 5
- ___buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___buttonbush (*Cephalanthus occidentalis*) 5
- ___dogwood, red-osier (*Cornus stolonifera*) 4
- ___*dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___dogwood, gray (*Cornus racemosa*) 2
- ___elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___*cranberry spp. (*Vaccinium*) 10
- ___*dwarf birch (*Betula pumila*) 10
- ___*highbush blueberry (*Vaccinium corymbosum*) 9
- ___*leatherleaf (*Chamaedaphne calyculata*) 10
- ___meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___*ninebark (*Physocarpus opulifolius*) 7
- ___*shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___spice bush (*Lindera benzoin*) 5
- ___*swamp dewberry (*Rubus hispidus*) 6
- ___*swamp holly and winterberry spp. (*Ilex*) 7
- ___swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___*tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___*ash, black (*Fraxinus nigra*) 7
- ___ash, green (*Fraxinus pensylvanica*) 3
- ___*ash, pumpkin (*Fraxinus tomentosa*) 8
- ___boxelder (*Acer negundo*) 1
- ___hickory, bitternut (*Carya cordiformis*) 5
- ___hickory, shellbark (*Carya laciniosa*) 8
- ___honey locust (*Gleditsia triacanthos*) 1
- ___*poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___red maple (*Acer rubrum*) 5
- ___silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___*alder, speckled (*Alnus rugosa*) 9
- ___river birch (*Betula nigra*) 2
- ___black, gum (*Nyssa sylvatica*) 5
- ___cottonwood, eastern (*Populus deltoides*) 1
- ___cottonwood, swamp (*Populus heterophylla*) 8
- ___elm, American (*Ulmus americana*) 3
- ___hackberry (*Celtis occidentalis*) 3
- ___ironwood (*Carpinus caroliniana*) 5
- ___oak, pin or white (*Quercus*) 4
- ___*oak, Shumard's, swamp chestnut, swamp white
- ___*pawpaw (*Asimina triloba*) 6
- ___*sugarberry (*Celtis laevigata*) 7
- ___sweet gum (*Liquidambar styraciflua*) 4
- ___sycamore, American (*Platanus occidentalis*) 3
- ___willow spp. (*Salix*) 1 sp. = 3
- ___additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities F Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

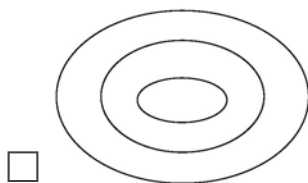
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

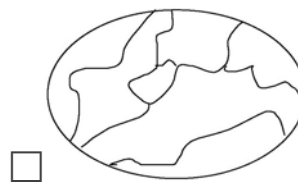
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Leersia oryzoides*

d. _____

b. *Typha latifolia*

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- horsetail, scouring rush spp. (Equisetum) 2
- *ferns: marsh shield fern spp. (Dryopteris) 7
- *cinnamon fern (Osmunda cinnamomea) 9
- *royal fern (Osmunda regalis) 8
- sensitive fern (Onoclea sensibilis) 4
- *other: species (if known)
- marsh club moss (Selaginella apoda) 4
- Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- *bladderwort spp. (Utricularia) 10
- coontail (Ceratophyllum demersum) 1
- duckweed spp. (Lemnaceae) 3
- *pondweed spp. (Potamogeton) 8
- curlyleaf pondweed (Potamogeton crispus) 0
- *water lily (Nymphaea tuberosa) 6
- water shield (Brasenia schreberi) 4
- *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- *beak rush spp (Rhynchospora) 10
 - blueflag iris (Iris virginica) 5
 - bulrush spp. (Scirpus / Schoenoplectus) 5
 - *bur reed spp. (Sparganium) 9
 - cat-tail spp. (Typha) 1
 - *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- a. *wild rice (Zizania aquatica) 10
 - b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - needle sedge spp. (Eleocharis) 1 sp. = 2
_____ *additional = 8
 - nutsedge spp. (Cyperus) 2
 - *orchid spp. 10; species (if know _____)
 - rush spp. (Juncus) 4
 - sedge spp. (Carex) 1 sp. = 3 _____ additional = 7
 - *spiderlily (Hymenocallis occidentalis) 9
 - sweet flag (Acorus calamus) 0
 - *3-way sedge (Dulichium arundinaceum) 10
 - *twig rush (Cladium mariscoides) 10
 - *umbrella sedge (Fuirena squarrosa) 10
 - wild hyacinth (Camassia scilloides) 5
 - *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- *arrow arum (Peltandra virginica) 6
- arrow-head spp. (Sagittaria) 4
- *green dragon (Arisaema dracontium) 6
- Jack-in-the-pulpit (Arisaema triphyllum) 4
- pickerel weed (Pontederia cordata) 5
- *skunk cabbage (Symplocarpus foetidus) 8
- *water arum (Calla palustris) 10
- water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- *bedstraw spp. (Galium) 6
- beggar's tick spp. (Bidens) 3
- blue vervain (Berbena hastata) 3
- boneset (Eupatorium perfoliatum) 4
- bugleweed spp. (Lycopus) 5
- clearweed spp. (Pilea) 3
- cup plant (Silphium perfoliatum) 4
- false nettle (Boehmeria cylindrica) 3
- *fen betony (Pedicularis lanceolata) 6
- *gentian spp. (Gentiana Gentianopsis) 8
- giant ragweed (Ambrosia trifida) 0
- Indian hemp (Apocynum cannabinum) 2
- Joe-pye weed spp. (Eupatorium) 5
- *loosestrife spp. (Lysimachia) 6
- meadow beauty (Rhexia virginica) 5
- mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- moneywort (Lysimachia nummularia) 0
- monkey flower spp. (Mimulus) 4
- nettle (Urtica procera) 1
- purple loosestrife (Lythrum salicaria) 0
- *richweed (Collinsonia canadensis) 8
- St. John's wort spp. (Hypericum/Triandem) 8
- sunflower sp. (Helianthus) 4
- *swamp loosestrife (Decodon verticillatus) 8
- swamp milkweed (Asclepias incarnata) 4
- toothcup spp. (Ammania Rotala) 2
- *turtlehead spp. (Chelone) 8
- virgin's bower (Clematis virginiana) 3
- water purslane (Ludwigia palustris) 3
- winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- American bellflower (Campanula americana) 4
- *asters: bristly aster (Aster puniceus) 7
- flat-topped aster (Aster umbellatus) 8
- other aster spp. (e.g. New England, panicled ast
- *black-eyed Susan (Rudbeckia fulgida) 8
- cardinal flower (Lobelia cardinalis) 4
- cress spp. (Cardamine) 4
- dock spp.: swamp, water, pale (Rumex) 4
- garlic mustard (Alliaria petiolata) 0
- golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ✓ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

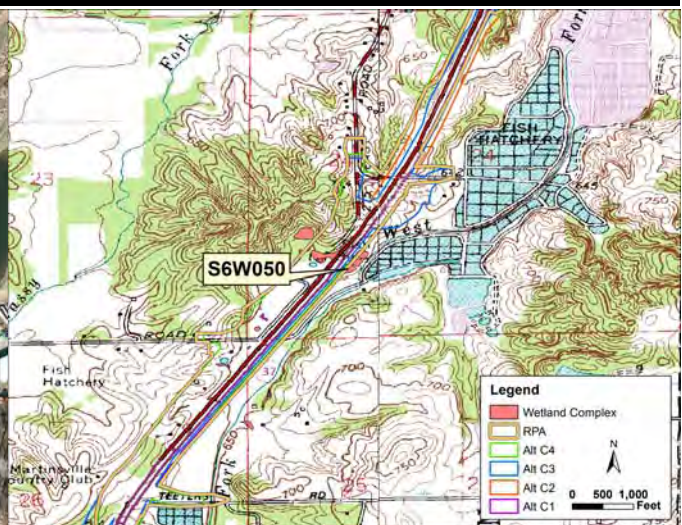
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W050



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 24
Quarter: SW
Latitude: 39.459872
Longitude: -86.376398

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W050A	Pond	PUB	0.4843	no rating	no rating	no rating	Alt C1	0.11	22.4%
							Alt C2	0.10	19.9%
							Alt C3	0.00	0.0%
							Alt C4	0.10	19.9%
							RPA	0.21	44.2%

Wetland S6W050

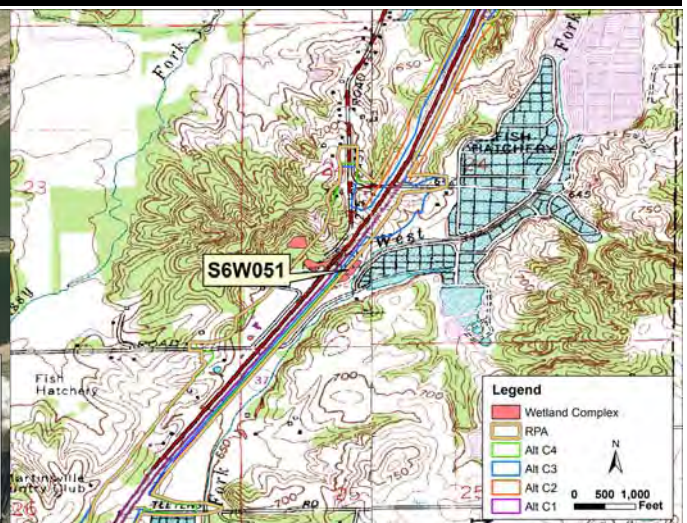


Polygon S6W050A

Wetland S6W051



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 24
Quarter: SW
Latitude: 39.460216
Longitude: -86.37602

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W051A	Pond	PUB	0.3931	no rating	no rating	no rating	Alt C1	0.06	16.5%
							Alt C2	0.08	19.6%
							Alt C3	0.00	0.0%
							Alt C4	0.08	19.6%
							RPA	0.12	29.7%

Wetland S6W051

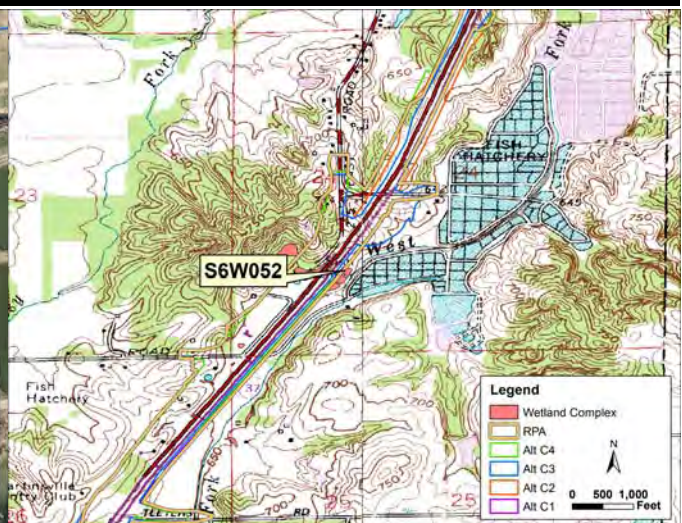


Polygon S6W051A

Wetland S6W052



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 24
Quarter: SW
Latitude: 39.460544
Longitude: -86.375736

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W052A	Pond	PUB	0.3509	no rating	no rating	no rating	Alt C1	0.08	22.3%
							Alt C2	0.09	26.0%
							Alt C3	0.00	0.0%
							Alt C4	0.09	26.0%
							RPA	0.10	28.5%

Wetland S6W052

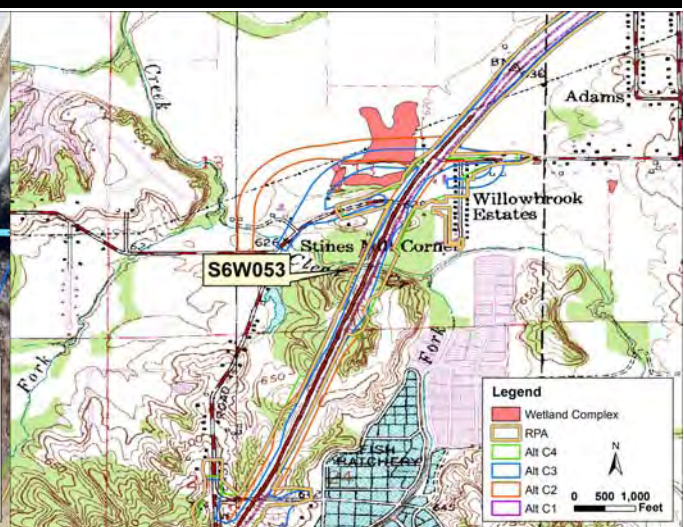


Polygon S6W052A

Wetland S6W053



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.3963
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R1E
Section: 13
Quarter: SE
Latitude: 39.474246
Longitude: -86.36986

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W053A	Floodplain Forest	PFO	0.3963	good	poor	fair	Alt C1	0.04	10.7%
							Alt C2	0.04	9.7%
							Alt C3	0.00	0.6%
							Alt C4	0.04	9.7%
							RPA	0.02	4.5%

Wetland S6W053



Polygon S6W053A



Polygon S6W053A

Wetland S6W053



Polygon S6W053A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W053

Date of Site Visit: Tuesday, October 06, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.3963

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.85

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W053A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: road/railroad other

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 4 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 2 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 5 Good Medium Poor

d. Average coefficient of conservatism: 2 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 12 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W053A	PFO1C	0.3963

1.2 Site VisitTeam Members: R. Hook, R. ConnollyAgency: HNTBDate assessed: 10/6/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.3963Size of wetland complex: 0.3963**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>85</u>	Native Vegetation - woodland	<u>15</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

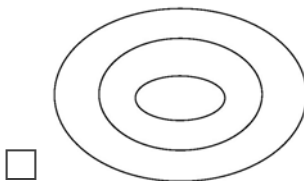
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

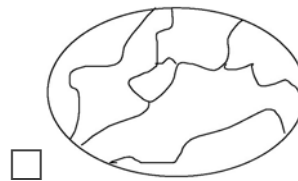
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|-------------------------------------|----------|
| a. <u><i>Polygonum striatum</i></u> | d. _____ |
| b. <u><i>Impatiens capensis</i></u> | e. _____ |
| c. <u><i>Solidago gigantea</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|---|----------|
| a. <u><i>Fraxinus pennsylvanica</i></u> | c. _____ |
| b. <u><i>Acer negundo</i></u> | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ✓ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ✓ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

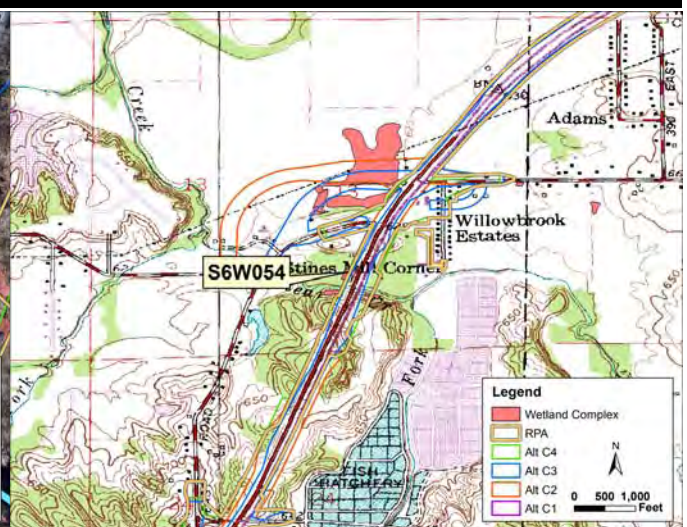
Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

Wetland S6W054



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.4852
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R1E
Section: 13
Quarter: SE
Latitude: 39.474993
Longitude: -86.369266

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W054A	Floodplain Forest	PFO	0.4852	good	poor	fair	Alt C1	0.28	56.8%
							Alt C2	0.26	54.3%
							Alt C3	0.12	24.3%
							Alt C4	0.26	54.3%
							RPA	0.19	39.0%

Wetland S6W054



Polygon S6W054A



Polygon S6W054A

Wetland S6W054



Polygon S6W054A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W054

Date of Site Visit: Tuesday, October 06, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.4852

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.85

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W054A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: road/railroad

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 4 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 4 Good Medium Poor

d. Average coefficient of conservatism: 2 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 11 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W054A	PFO1C	0.4852

1.2 Site VisitTeam Members: R. Hook, R. ConnollyAgency: HNTBDate assessed: 10/6/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.4852Size of wetland complex: 0.4852**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>85</u>	Native Vegetation - woodland	<u>15</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife S Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 20 approximate slope (percent 45)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

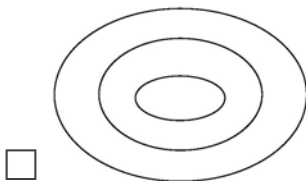
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

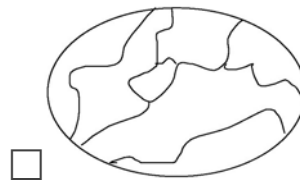
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Sagittaria latifolia* d. _____
- b. *Carex sp.* e. _____
- c. *Impatiens capensis* f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____ c. _____
- b. _____ d. _____

Dominant Tree Species listed in order of relative abundance.

- a. *Fraxinus pennsylvanica* c. _____
- b. _____ d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ✓ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ✓ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ✓ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ✓ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ✓ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W055



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.2061
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R1E
Section: 13
Quarter: SE
Latitude: 39.474128
Longitude: -86.368145

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W055A	Floodplain Forest	PFO	0.2061	fair	fair	good	Alt C1	0.07	34.6%
							Alt C2	0.07	34.6%
							Alt C3	0.00	0.0%
							Alt C4	0.07	34.6%
							RPA	0.08	39.2%

Wetland S6W055



Polygon S6W055A



Polygon S6W055A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W055

Date of Site Visit: Tuesday, October 06, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.2061

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.74

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W055A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: Marl Seeps

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 5 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 ma 3) Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 6 Good Medium Poor

d. Average coefficient of conservatism: 4.5 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 8 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W055A	PFO1	0.2061

1.2 Site VisitTeam Members: R. Hook, R. Connolly (Originally JFNew)Agency: HNTBDate assessed: 10/6/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.2061Size of wetland complex: 0.2061**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>50</u>	Native Vegetation - woodland	<u>20</u>	Road / highway / railroad bed / parking lot
<u>30</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

Marl Seeps

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

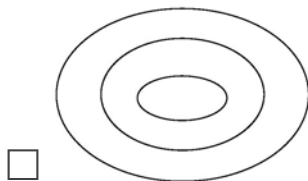
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

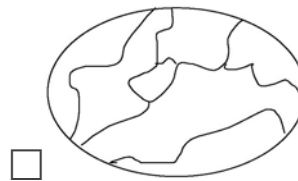
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Polystichum acrostichoides*

d. _____

b. *Impatiens capensis*

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. *Asimina triloba*

c. _____

b. *Lindera benzoin*

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Acer saccharum*

c. _____

b. *Fagus grandifolia*

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shiled fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalils) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known _____)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ___ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. =2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know _____)
 ___ rush spp. (Juncus) 4
 ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leafed monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hamp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aser puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast _____)
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ✓ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ✓ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

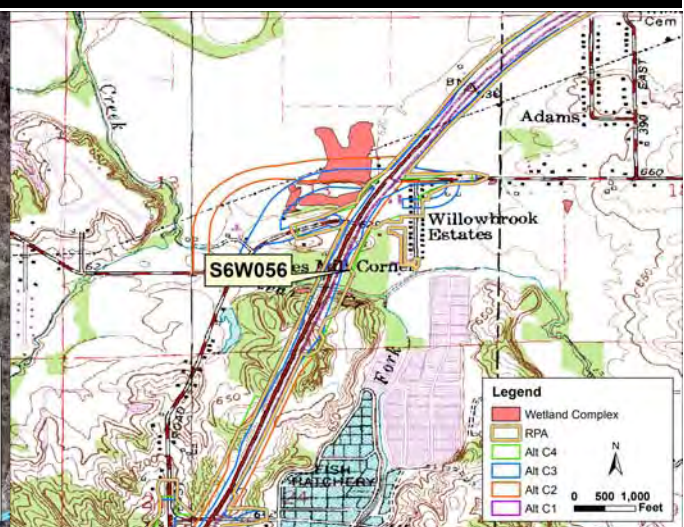
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ✓ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W056



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.1636
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R1E
Section: 13
Quarter: SE
Latitude: 39.475195
Longitude: -86.367923

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W056A	Swamp Forest	PFO	0.1636	fair	poor	good	Alt C1	0.13	82.0%
							Alt C2	0.13	82.0%
							Alt C3	0.00	0.0%
							Alt C4	0.13	82.0%
							RPA	0.11	67.1%

Wetland S6W056



Polygon S6W056A



Polygon S6W056A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W056

Date of Site Visit: Tuesday, October 06, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.1636

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable **Favorable** Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.90

d. Value surrounding area adds to animal habitat: **Valuable** Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W056A

a. **Indiana Wetland community type:** Swamp Forest

b. Standing water - contribution to animal habitat: Valuable **Favorable** Neutral

c. Disturbances to site: road/railroad

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good **Medium** Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 5 **Good** Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good **Medium** Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: **Valuable** Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 5 Good **Medium** Poor

d. Average coefficient of conservatism: 2.8 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: **Valuable** Neutral

f. Mature trees as indicator of animal habitat: **Valuable** Favorable Neutral

g. Total hydrophytic taxa observed: 5 Good Medium **Poor**

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W056A	PFO1C	0.1636

1.2 Site VisitTeam Members: R. Hook/R. Connolly (originally JFNew)Agency: HNTBDate assessed: 10/6/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1636Size of wetland complex: 0.1636**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>90</u> Native Vegetation - woodland	<u>10</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Swamp Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 30 approximate slope (percent 5)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

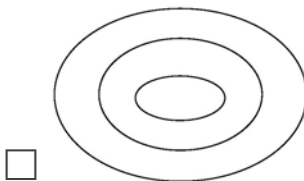
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

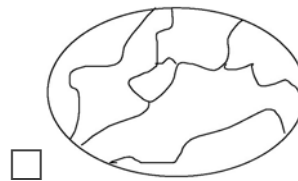
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. Carex sp.
- b. Boehmeria cylindrica
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. Lindera benzoin
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. Platanus occidentalis
- b. Acer negundo
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ___ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint,
 foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary
 grass (Phalaris, reed (Phragmites),
 annual grasses such as annual foxtail
 (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know _____)
 ___ rush spp. (Juncus) 4
 ___ ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Verbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ ✓ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ✓ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ✓ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

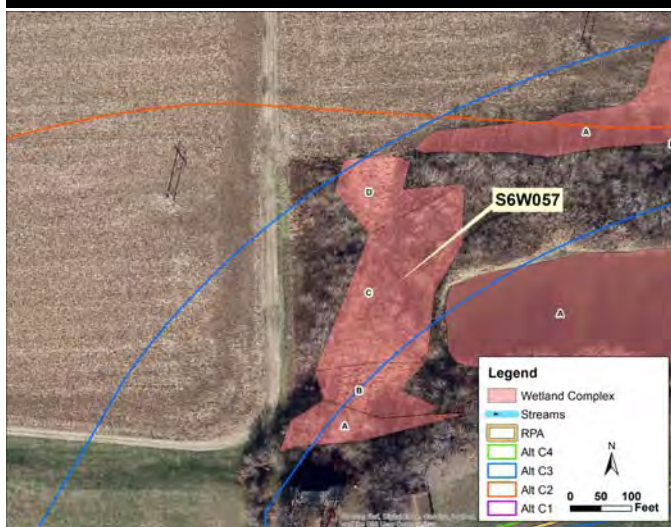
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

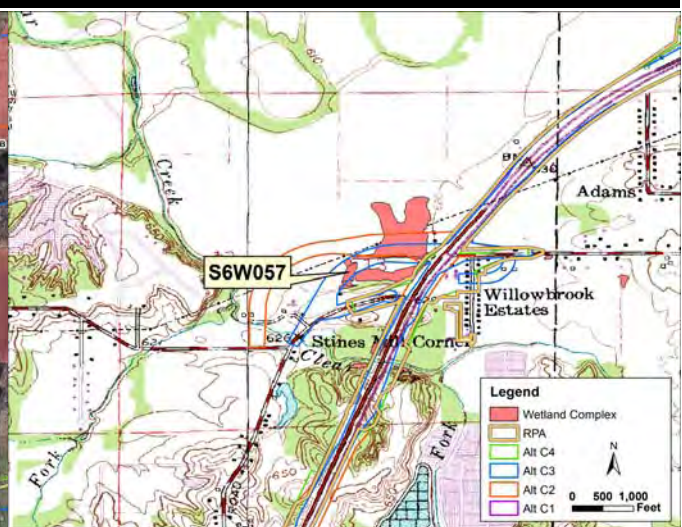
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W057



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 1.3618
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R1E
Section: 13
Quarter: SE
Latitude: 39.478318
Longitude: -86.370463

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W057A	Wet Prairie	PEM	0.1940	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.08	39.1%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W057B	Wet Prairie	PEM	0.2176	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.08	36.9%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W057C	Wet Meadow	PEM	0.7098	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.67	95.1%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W057D	Wet Prairie	PEM	0.2404	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.23	96.3%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%



Polygon S6W057A



Polygon S6W057A

Tier 2 SUMMARY:

Polygon ID S6W057B

a. Indiana Wetland community type: <u>Wet Prairie</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: _____			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>4</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>3</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>2</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>0</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>2</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 2 SUMMARY:

Polygon ID S6W057C

- a. Indiana Wetland community type: Wet Meadow

- b. Standing water - contribution to animal habitat: Valuable Favorable Neutral
- c. Disturbances to site: _____
- d. Exotic species rating: Good Medium Poor
- e. Special Hydrologic Conditions Observed: None

- f. Special Community Type: None

- g. Rare-Threatened-Endangered Species: None
- h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

- a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral
- b. Water quality protection - numerical rank (6 max.): 4 Good Medium Poor
- c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

- a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral
- b. Stratification as indicator of animal habitat: Valuable Neutral
- c. Number of dominant plant taxa observed: 4 Good Medium Poor
- d. Average coefficient of conservatism: 1.3 Good Medium Poor
- e. Tree canopy as indicator of animal habitat: Valuable Neutral
- f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral
- g. Total hydrophytic taxa observed: 4 Good Medium Poor
- h. Number of indicator taxa: 0 Good Medium Poor

Tier 2 SUMMARY:**Polygon ID** S6W057D

a. Indiana Wetland community type: <u>Wet Prairie</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: _____			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>4</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>3</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>4</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>1.3</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>4</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W057A	PEM1	0.1940
S6W057B	PEM1	0.2176
S6W057C	PEM1	0.7098
S6W057D	PEM1	0.2404

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 1.3618Size of wetland complex: 1.3618**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

10 Native Vegetation - woodland 0 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 0 Industrial50 Agricultural - tilled 10 Residential - single family0 Agricultural - pasture 10 Commercial or multifamily residential20 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Prairie

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

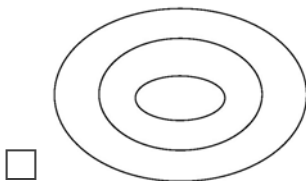
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

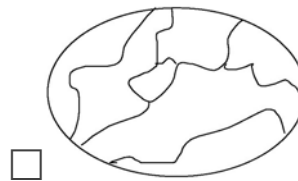
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|--|----------|
| a. <u><i>Symphotrichum lanceolatum</i></u> | d. _____ |
| b. <u><i>Vernonia missurica</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|--|-------------------------------|
| a. <u><i>Acer saccharinum</i></u> | c. <u><i>Acer negundo</i></u> |
| b. <u><i>Platanus occidentalis</i></u> | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ✓ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ✓ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ✓ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ✓ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Prairie

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

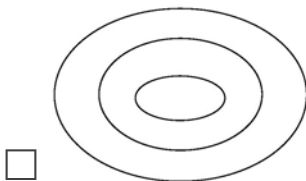
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Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

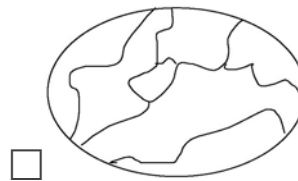
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Phalaris arundinacea* d. _____

b. *Polygonum sp.* e. _____

c. _____ f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____ c. _____

b. _____ d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____ c. _____

b. _____ d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

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- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
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- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
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 - ___ *orchid spp. 10; species (if know
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

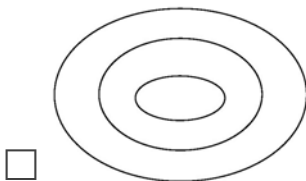
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

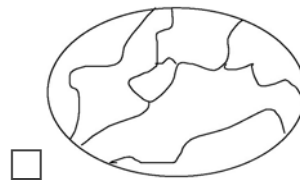
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. Phalaris arundinacea
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. Salix interior
- b. Populus deltoides
- c. Platanus occidentalis
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
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- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Prairie

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

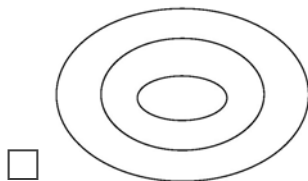
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

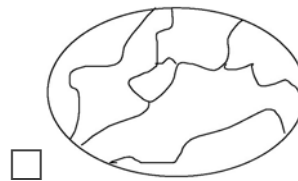
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. Phalaris arundinacea
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. Salix interior
- b. Populus deltoides
- c. Platanus occidentalis
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shiled fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known _____)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. =2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hamp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast _____)
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

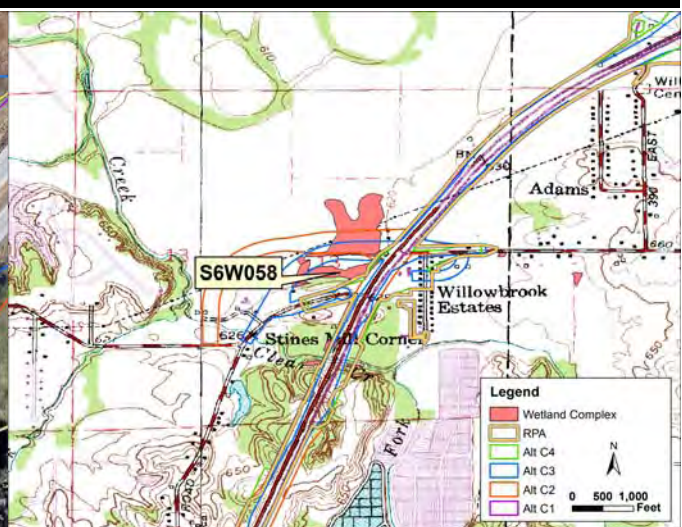
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W058



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: Martinsville Hills
Ecoregion: Interior Plateau
Natural Region: Highland Rim
Size of wetland complex (acres): 3.2703
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: 12N
Range: 1E
Section: 13
Quarter:
Latitude: 39.478816
Longitude: -86.367167

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W058A	Shallow Open Water	PUB	3.0619	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.2%
							Alt C3	0.05	1.6%
							Alt C4	0.01	0.2%
							RPA	0.10	3.4%
S6W058B	Shallow Marsh	PEM	0.2084	poor	poor	fair	Alt C1	0.03	15.0%
							Alt C2	0.12	56.9%
							Alt C3	0.09	44.1%
							Alt C4	0.06	29.5%
							RPA	0.16	76.5%

Wetland S6W058



Polygon S6W058B

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W058

Date of Site Visit: Tuesday, April 11, 2017

Tier 1 Summary:

a. Total Wetland Area (acres): 3.2703

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.66

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W058A

a. **Indiana Wetland community type:** Deep Marsh/Shallow Open Water

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: road/railroad culvert

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: _____

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 2 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 ma 2) Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 1 Good Medium Poor

d. Average coefficient of conservatism: 0 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 0 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 2 SUMMARY:

Polygon ID S6W058B

a. Indiana Wetland community type: <u>Shallow Marsh</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: <u>culvert</u>			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: _____			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>4</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>2</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>2</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>1.5</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>2</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>2</u>	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MartinsvilleUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W058A	PUBHx	3.0619
S6W058B	PEM1	0.2084

1.2 Site VisitTeam Members: Rusty Yeager, Brenten ReustAgency: Lochmueller GroupDate assessed: 4/11/2017Time assessed: 12:30:00 PMWeather conditions: Sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

None**1.3 Wetland Size**Size of site under assessment: 3.2703Size of wetland complex: 3.2703**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>30</u>	Native Vegetation - woodland	<u>5</u>	Road / highway / railroad bed / parking lot
<u>20</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>20</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>5</u>	Commercial or multifamily residential
<u>20</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? Yes

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 60 ___ approximate slope (percent ___ 3 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

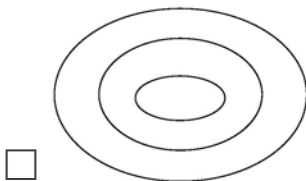
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

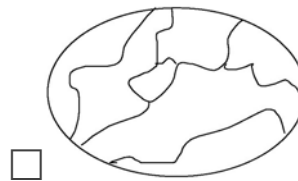
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. 3883

d. _____

b. _____

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shallow Marsh

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 30 approximate slope (percent 5)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

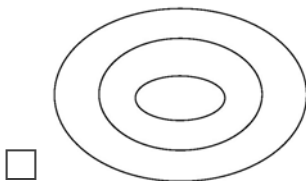
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

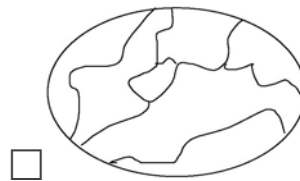
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Phalaris arundinacea* d. _____

b. _____ e. _____

c. _____ f. _____

Dominant Shrub Species listed in order of relative abundance.

a. *Salix interior* c. _____

b. _____ d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____ c. _____

b. _____ d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

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- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

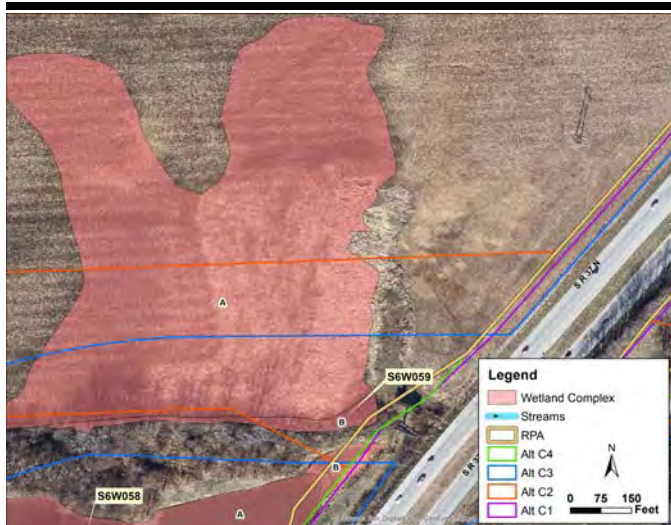
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W059



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 12.5821
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R1E
Section: 13
Quarter: SE
Latitude: 39.47991
Longitude: -86.367176

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W059A	Wet Meadow	PEM	12.2436	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	5.14	42.0%
							Alt C3	3.17	25.9%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W059B	Floodplain Forest	PFO	0.3385	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.21	61.2%
							Alt C3	0.34	100.0%
							Alt C4	0.00	0.0%
							RPA	0.01	2.7%

Wetland S6W059



Polygon S6W059D



Polygon S6W059A

Wetland S6W059



Polygon S6W059B



Polygon S6W059A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W059

Date of Site Visit: Thursday, October 08, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 12.5821

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.64

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W059A

a. **Indiana Wetland community type:** Wet Meadow

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: road/railroad culvert

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 2 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 4 Good Medium Poor

d. Average coefficient of conservatism: 2 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 9 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 2 SUMMARY:

Polygon ID S6W059B

a. Indiana Wetland community type: Floodplain Forest			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: <u>road/railroad culvert</u>			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>3</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma <u>2</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>3</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>1.7</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>3</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Clear Creek - East/West/Grassy Forks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W059A	PEM1	12.2436
S6W059B	PFO1	0.3385

1.2 Site VisitTeam Members: R. Hook, C. Meador (Originally JFNew)Agency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 12.5821Size of wetland complex: 12.5821**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>60</u> Native Vegetation - woodland	<u>20</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>20</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

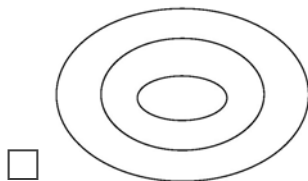
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

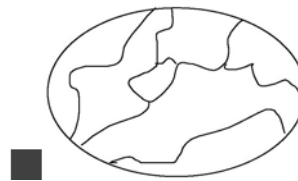
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|----------------------------------|---------------------------|
| a. <u>Leersia oryzoides</u> | d. <u>Typha latifolia</u> |
| b. <u>Echinochloa crus-galli</u> | e. _____ |
| c. <u>Phalaris arundinacea</u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ✓ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ✓ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ✓ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ✓ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ✓ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

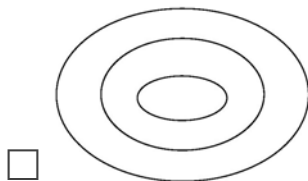
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

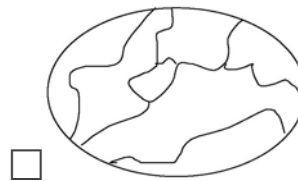
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|----------|----------|
| a. _____ | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|-----------------------------|---------------------------------|
| a. <u>Acer negundo</u> | c. <u>Platanus occidentalis</u> |
| b. <u>Populus deltoides</u> | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ✓ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ✓ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

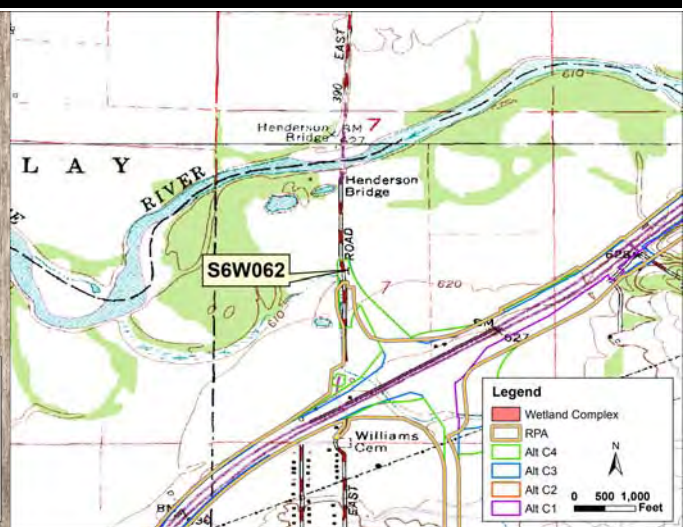
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W062



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0276
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 7
Quarter: NW
Latitude: 39.495612
Longitude: -86.35502

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W062A	Floodplain Forest	PFO	0.0276	fair	poor	good	Alt C1	0.03	100.0%
							Alt C2	0.03	100.0%
							Alt C3	0.03	100.0%
							Alt C4	0.03	100.0%
							RPA	0.00	0.0%

Wetland S6W062



Polygon S6W062A



Polygon S6W062A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W062A	PFO1	0.0276

1.2 Site VisitTeam Members: R. Hook, C. Meador (Originally JFNew)Agency: HNTBDate assessed: 10/12/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0276Size of wetland complex: 0.0276**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>5</u>	Native Vegetation - woodland	<u>45</u>	Road / highway / railroad bed / parking lot
<u>5</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>45</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

S Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

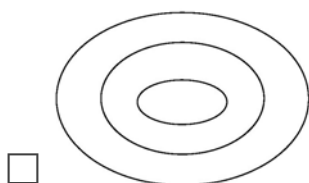
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

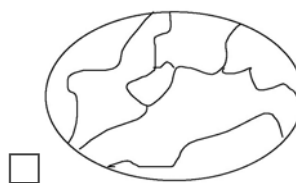
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Campsis radicans*

d. _____

b. *Toxicodendron radicans*

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. *Acer negundo*

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Platanus occidentalis*

c. _____

b. *Populus deltoides*

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shiled fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalils) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known _____)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. =2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leafed monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hamp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aser puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

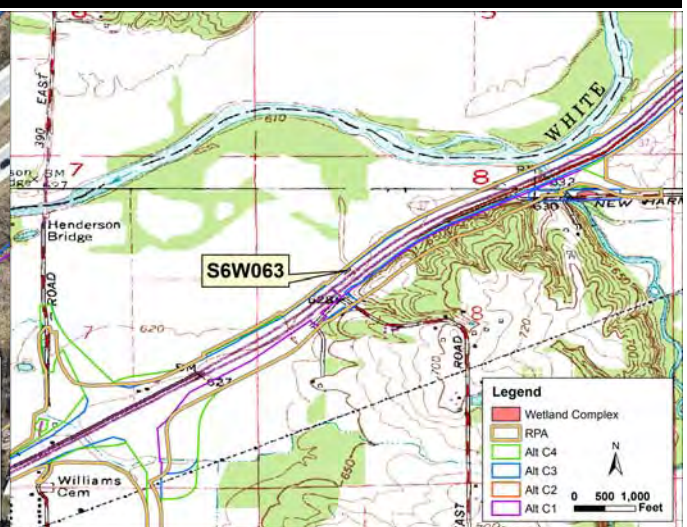
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W063



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0545
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NW
Latitude: 39.49618
Longitude: -86.342013

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W063A	Wet Meadow	PEM	0.0545	poor	poor	fair	Alt C1	0.05	100.0%
							Alt C2	0.05	100.0%
							Alt C3	0.05	100.0%
							Alt C4	0.05	100.0%
							RPA	0.05	100.0%

Wetland S6W063



Polygon S6W063A



Polygon S6W063A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W063A	PEM1	0.0545

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/12/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0545Size of wetland complex: 0.0545**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>10</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>85</u> Agricultural - tilled	<u>5</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

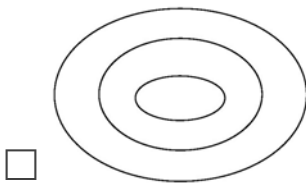
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

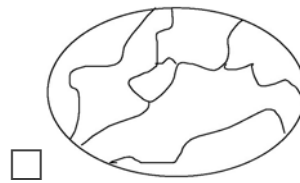
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|-----------------------------------|--|
| a. <u><i>Panicum virgatum</i></u> | d. <u><i>Leersia oryzoides</i></u> |
| b. <u><i>Setaria faberi</i></u> | e. <u><i>Amaranthus tuberculatus</i></u> |
| c. <u><i>Solidago sp.</i></u> | f. <u><i>Digitaria sanguinalis</i></u> |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ✓ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ✓ *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ✓ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

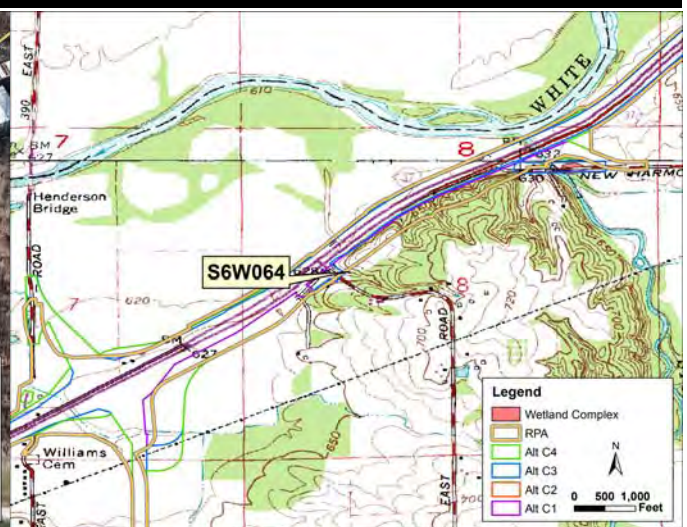
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W064



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0201
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NW
Latitude: 39.495072
Longitude: -86.341447

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W064A	Floodplain Forest	PFO	0.0201	good	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	5.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	5.0%
							RPA	0.00	5.0%

Wetland S6W064



Polygon S6W064A



Polygon S6W064A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W064

Date of Site Visit: Thursday, October 08, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0201

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.75

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W064A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: road/railroad culvert

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 4 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 2 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 5 Good Medium Poor

d. Average coefficient of conservatism: 1.4 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 8 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W064A	PFO1C	0.0201

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0201Size of wetland complex: 0.0201**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>75</u>	Native Vegetation - woodland	<u>25</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities F Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 15 approximate slope (percent 10)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

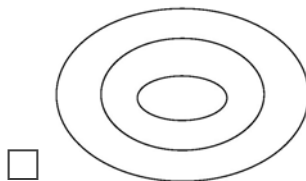
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

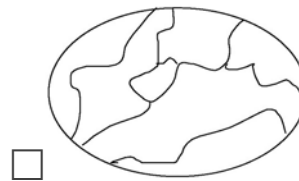
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|----------|
| a. <u><i>Impatiens capensis</i></u> | d. _____ |
| b. <u><i>Phalaris arundinacea</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|--|-----------------------------------|
| a. <u><i>Platanus occidentalis</i></u> | c. <u><i>Acer saccharinum</i></u> |
| b. <u><i>Acer negundo</i></u> | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ___ ✓ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ ✓ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halbredleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

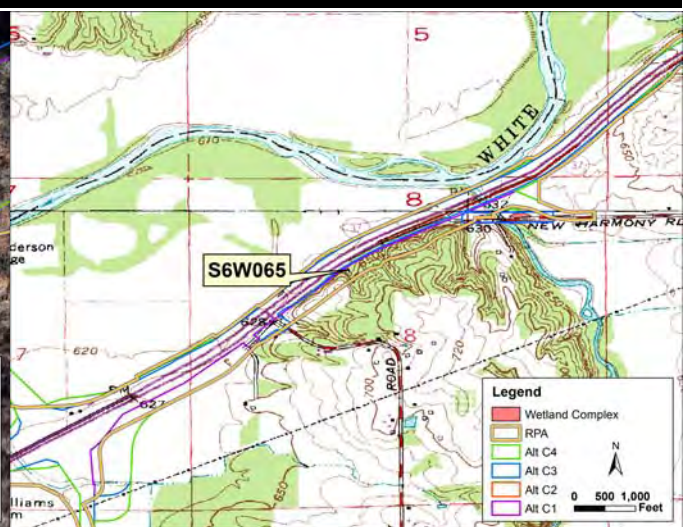
Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

Wetland S6W065



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0084
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NW
Latitude: 39.497342
Longitude: -86.338675

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W065A	Floodplain Forest	PFO	0.0084	fair	poor	good	Alt C1	0.00	0.0%
							Alt C2	0.01	100.0%
							Alt C3	0.00	0.0%
							Alt C4	0.01	100.0%
							RPA	0.01	100.0%

Wetland S6W065



Polygon S6W065A



Polygon S6W065A

Wetland S6W065



Polygon S6W065A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W065

Date of Site Visit: Thursday, October 08, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0084

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.56

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W065A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 5 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 4 Good Medium Poor

d. Average coefficient of conservatism: 2.3 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 8 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W065A	PF01	0.0084

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0084Size of wetland complex: 0.0084**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>50</u>	Native Vegetation - woodland	<u>30</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>10</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>10</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 80 ___ approximate slope (percent ___ 30 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

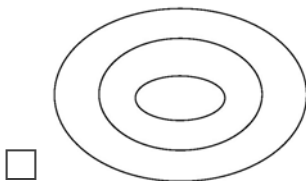
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

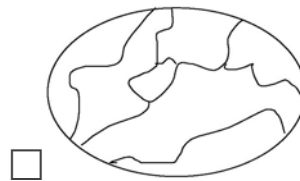
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---|----------|
| a. <u><i>Pilea pumila</i></u> | d. _____ |
| b. <u><i>Polygonum sp.</i></u> | e. _____ |
| c. <u><i>Dryopteris carthusiana</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|-----------------------------------|----------|
| a. <u><i>Acer saccharinum</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ___ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know _____)
 ___ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

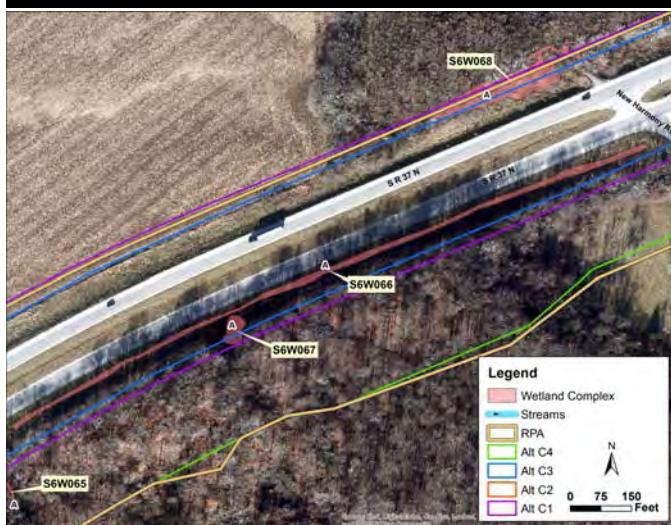
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

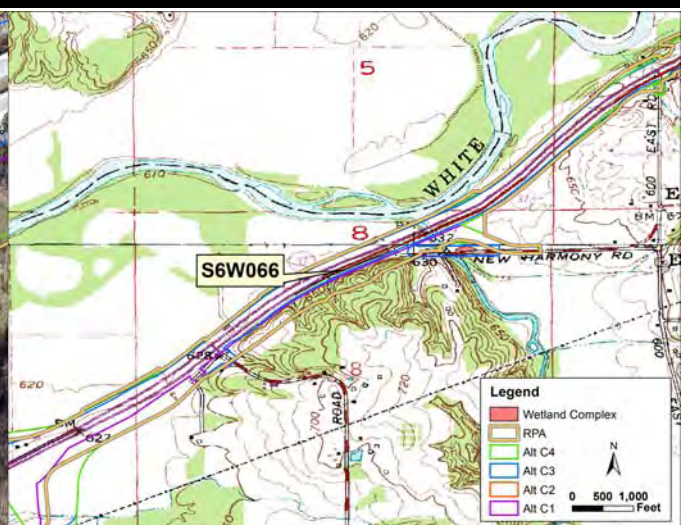
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ✓ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W066



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.4067
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NE and NW
Latitude: 39.498892
Longitude: -86.336285

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W066A	Wet Meadow	PEM	0.4067	fair	poor	fair	Alt C1	0.41	100.0%
							Alt C2	0.41	100.0%
							Alt C3	0.41	100.0%
							Alt C4	0.41	100.0%
							RPA	0.41	100.0%



Polygon S6W066A



Polygon S6W066A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W066

Date of Site Visit: Thursday, October 08, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.4067

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.49

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W066A

a. **Indiana Wetland community type:** Wet Meadow

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: ditches road/railroad culvert

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 3 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 2 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 4 Good Medium Poor

d. Average coefficient of conservatism: 1.8 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 5 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W066A	PEM1	0.4067

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.4067Size of wetland complex: 0.4067**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>40</u>	Native Vegetation - woodland	<u>30</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>15</u>	Agricultural - tilled	<u>15</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

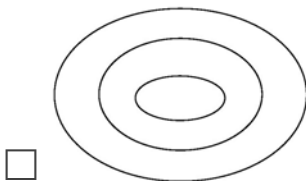
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

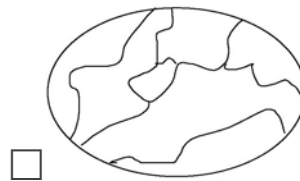
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|----------|
| a. <u><i>Impatiens capensis</i></u> | d. _____ |
| b. <u><i>Phalaris arundinacea</i></u> | e. _____ |
| c. <u><i>Scirpus cyperinus</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint,
 foxtail (Alopecurus); other _____
 ✓ c. introduced grass spp. 0: reed canary
 grass (Phalaris, reed (Phragmites),
 annual grasses such as annual foxtail
 (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know _____)
 ___ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

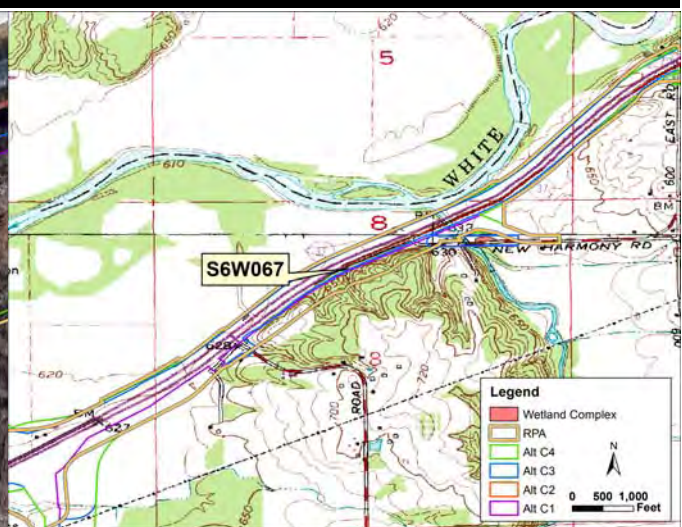
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W067



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0519
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NW
Latitude: 39.498379
Longitude: -86.337113

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W067A	Floodplain Forest	PFO	0.0519	good	poor	fair	Alt C1	0.05	100.0%
							Alt C2	0.05	100.0%
							Alt C3	0.04	75.9%
							Alt C4	0.05	100.0%
							RPA	0.05	100.0%



Polygon S6W067A



Polygon S6W067A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W067

Date of Site Visit: Thursday, October 08, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0519

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.70

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W067A

a. **Indiana Wetland community type:** Floodplain Forest

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: Wet slope

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 4 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 6 Good Medium Poor

d. Average coefficient of conservatism: 2.3 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 9 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W067A	PFO1C	0.0519

1.2 Site VisitTeam Members: R. Hook, C. Meador (Oringally JFNew)Agency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0519Size of wetland complex: 0.0519**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>70</u> Native Vegetation - woodland	<u>30</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificially Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Disturbances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife F Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

Wet slope

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen

RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 50 ___ approximate slope (percent ___ 30 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

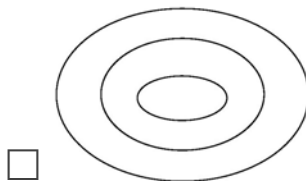
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

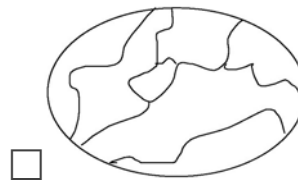
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Impatiens capensis*
- b. *Solidago sp.*
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. *Rosa multiflora*
- b. *Asimina parviflora*
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. *Salix nigra*
- b. *Acer saccharinum*
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ___ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know _____)
 ___ rush spp. (Juncus) 4
 ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ___ Indian hemp (Apocynum cannabinum) 2
 ___ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ___ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ___ ✓ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ___ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halbredleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

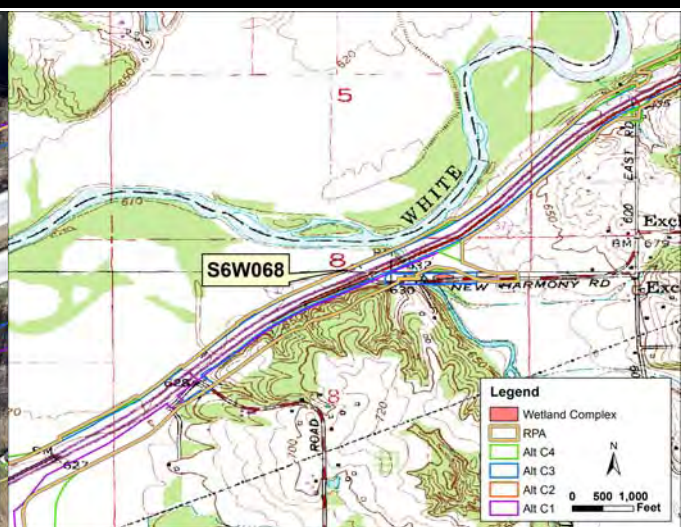
Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

Wetland S6W068



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: White River - Henderson Bridge
14-digit HUC: 05120201140130
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.3479
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NE
Latitude: 39.500024
Longitude: -86.335779

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W068A	Floodplain Forest	PFO	0.3479	fair	poor	good	Alt C1	0.27	77.2%
							Alt C2	0.22	63.8%
							Alt C3	0.09	26.2%
							Alt C4	0.22	63.8%
							RPA	0.22	63.8%



Polygon S6W068A



Polygon S6W068A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: White River - Henderson Bridge

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W068A	PFO1	0.3479

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.3479Size of wetland complex: 0.3479**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>30</u>	Native Vegetation - woodland	<u>30</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>40</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

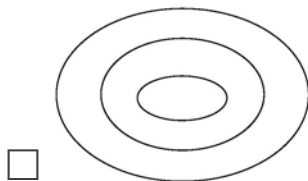
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

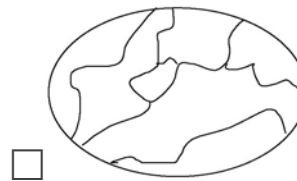
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|--------------------------------|----------|
| a. <u><i>Pilea pumila</i></u> | d. _____ |
| b. <u><i>Polygonum sp.</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|--|----------|
| a. <u><i>Platanus occidentalis</i></u> | c. _____ |
| b. <u><i>Acer saccharinum</i></u> | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ ✓ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ✓ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

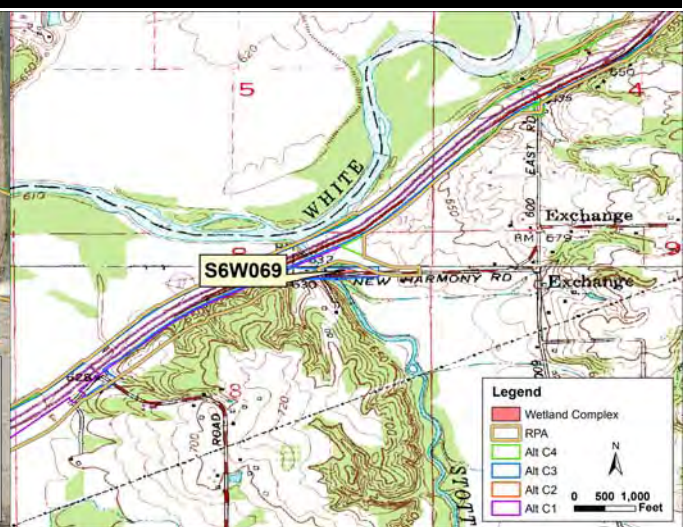
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W069



Wetland Location on 2015 Aerial Photograph



Wetland Location on Cope USGS Quadrangle

Basin: Stotts Creek-Exchange
14-digit HUC: 05120201140120
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.3290
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Cope
County: Morgan
Township: T12N
Range: R2E
Section: 8
Quarter: NE
Latitude: 39.499781
Longitude: -86.330981

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W069A	Floodplain Forest	PFO	0.3290	fair	poor	fair	Alt C1	0.33	100.0%
							Alt C2	0.00	0.0%
							Alt C3	0.33	100.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%



Polygon S6W069A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: CopeUSGS Watershed map 14-Digit HUC: Stotts Creek-Exchange

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W069A	PFO1	0.3290

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 10/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.329Size of wetland complex: 0.329**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>20</u>	Native Vegetation - woodland	<u>0</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>80</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Floodplain Forest

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

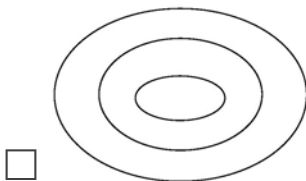
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

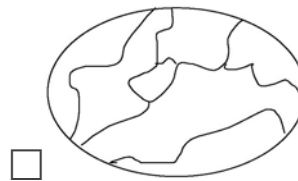
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|-------------------------------------|--|
| a. <u><i>Polygonum sp.</i></u> | d. <u><i>Rudbeckia laciniata</i></u> |
| b. <u><i>Vernonia missurica</i></u> | e. <u><i>Symphotrichum lanceolatum</i></u> |
| c. <u><i>Ambrosia trifida</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|--------------------------------------|----------|
| a. <u><i>Celtis occidentalis</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ ✓ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ ✓ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ✓ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium* *Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ✓ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

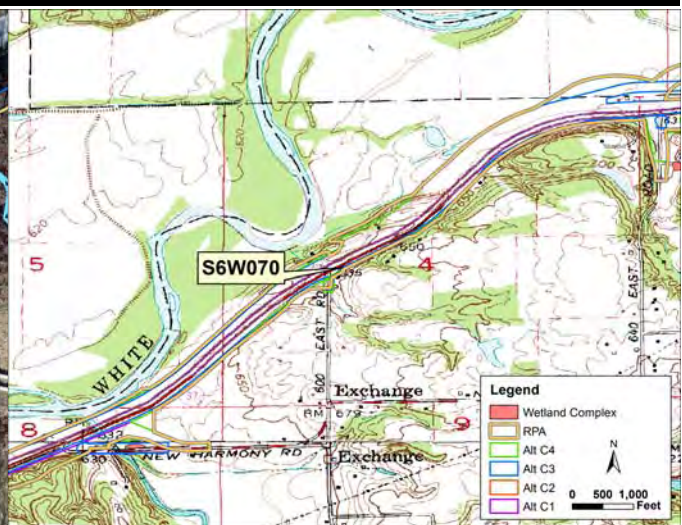
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ✓ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W070



Wetland Location on 2015 Aerial Photograph

Wetland Location on Moorsville East USGS Quadra

Basin: White River - North Trib (Centena)
14-digit HUC: 05120201140060
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.1047
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Moorsville East
County: Morgan
Township: T12N
Range: R2E
Section: 4
Quarter: SW
Latitude: 39.507749
Longitude: -86.321619

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W070A	Wet Meadow	PEM	0.1047	fair	poor	fair	Alt C1	0.09	88.0%
							Alt C2	0.09	88.0%
							Alt C3	0.04	40.5%
							Alt C4	0.09	88.0%
							RPA	0.09	88.2%

Wetland S6W070



Polygon S6W070A



Polygon S6W070A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: Mooreville EastUSGS Watershed map 14-Digit HUC: White River - North Trib (Centenary Church)

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W070A	PEM1M	0.1047

1.2 Site VisitTeam Members: R. Hook, C. Meador, R. Conolly (Originally JFNew)Agency: HNTBDate assessed: 9/24/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1047Size of wetland complex: 0.1047**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>50</u>	Native Vegetation - woodland	<u>20</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>20</u>	Residential - single family
<u>10</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities F Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

Potential artesian well/spring feeding the wetland

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter _____) approximate slope (percent _____)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

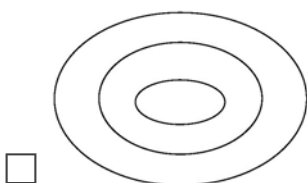
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

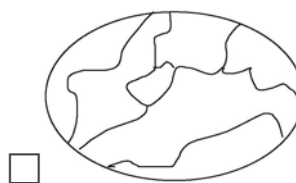
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---|----------|
| a. <u><i>Phalaris arundinacea</i></u> | d. _____ |
| b. <u><i>Impatiens capensis</i></u> | e. _____ |
| c. <u><i>Eupatorium perfoliatum</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ✓ blue vervain (Berbena hastata) 3
- ✓ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ✓ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ✓ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ✓ *goldenrod spp. (*Solidago ohioensis*, *S. patula*)
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ✓ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium* *Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halfbreedleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

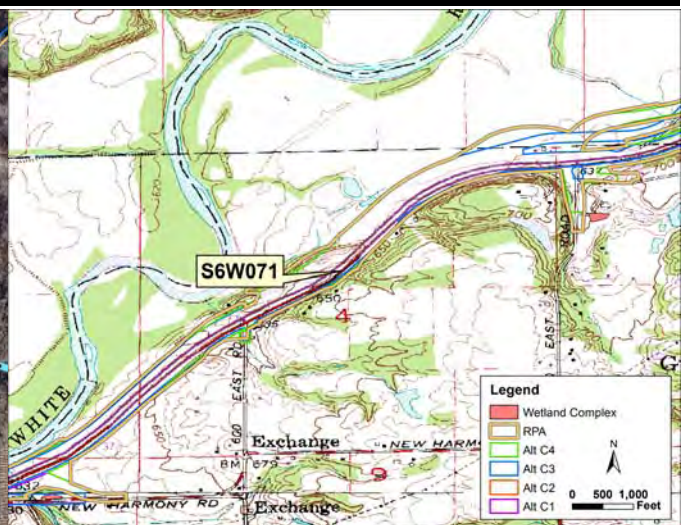
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W071



Wetland Location on 2015 Aerial Photograph



Wetland Location on Moorsville East USGS Quadra

Basin: White River - North Trib (Centena)
14-digit HUC: 05120201140060
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.1119
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Moorsville East
County: Morgan
Township: T12N
Range: R2E
Section: 4
Quarter: NE and NW
Latitude: 39.510187
Longitude: -86.317571

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W071A	Wet Meadow	PEM	0.1119	fair	poor	poor	Alt C1	0.11	100.0%
							Alt C2	0.11	100.0%
							Alt C3	0.11	100.0%
							Alt C4	0.11	100.0%
							RPA	0.11	100.0%

Wetland S6W071



Polygon S6W071A



Polygon S6W071A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W071

Date of Site Visit: Thursday, September 24, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.1119

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.54

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W071A

a. **Indiana Wetland community type:** Wet Meadow

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: road/railroad culvert

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 1 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 1 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 2 Good Medium Poor

d. Average coefficient of conservatism: 2 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 2 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: Mooreville EastUSGS Watershed map 14-Digit HUC: White River - North Trib (Centenary Church)

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W071A	PEM1	0.1119

1.2 Site VisitTeam Members: R. Hook/ C. Meador/ R. ConnollyAgency: HNTBDate assessed: 9/24/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1119Size of wetland complex: 0.1119**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>50</u> Native Vegetation - woodland	<u>40</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>10</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 - Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 - Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 - Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 - Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

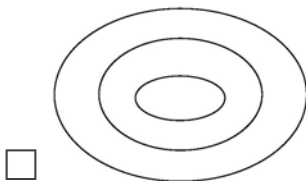
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

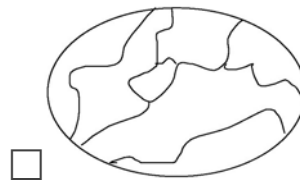
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|----------|
| a. <u><i>Phalaris arundinacea</i></u> | d. _____ |
| b. <u><i>Solidago sp.</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ✓ *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

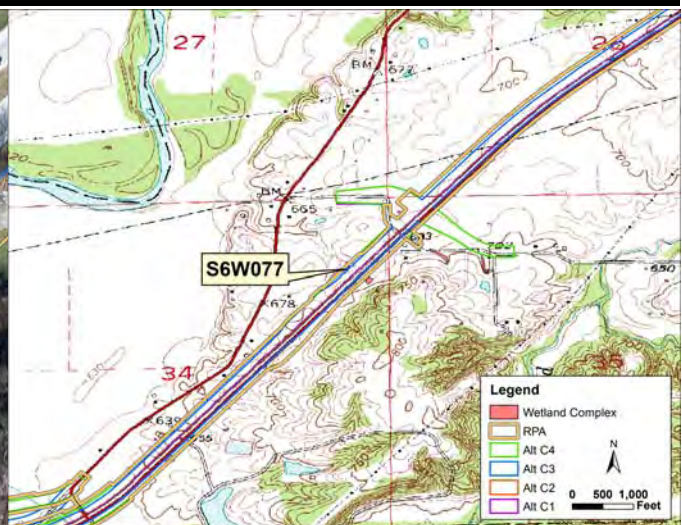
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W077



Wetland Location on 2015 Aerial Photograph



Wetland Location on Mooresville East USGS Quadra

Basin: White River - Sinking Creek
14-digit HUC: 05120201140040
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0305
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Mooresville East
County: Morgan
Township: T13N
Range: R2E
Section: 34
Quarter: NE
Latitude: 39.527458
Longitude: -86.289808

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W077A	Scrub-Carr	PSS	0.0305	fair	poor	fair	Alt C1	0.03	100.0%
							Alt C2	0.03	100.0%
							Alt C3	0.00	5.9%
							Alt C4	0.03	100.0%
							RPA	0.03	100.0%

Wetland S6W077



Polygon S6W077A



Polygon S6W077A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: Mooreville EastUSGS Watershed map 14-Digit HUC: White River - Sinking Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W077A	PSS1	0.0305

1.2 Site VisitTeam Members: R. Hook, R. Connolly, C. MeadorAgency: HNTBDate assessed: 8/31/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0305Size of wetland complex: 0.0305**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>50</u>	Native Vegetation - woodland	<u>10</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>10</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>30</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife F Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

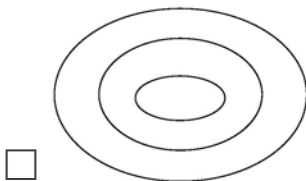
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

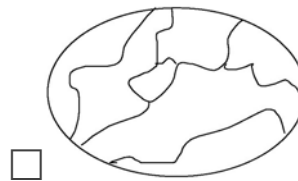
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Leersia oryzoides*

d. _____

b. _____

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. *Lonicera X bella*

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Platanus occidentalis*

c. _____

b. *Salix sp.*

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
- ___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*),
- *grass of Parnassus (*Parnassia glauca*) 10
- *Indian plantain (*Cacalia plantaginea*) 10
- ironweed spp. (*Vernonia*) 4
- jewelweed, touch-me-not spp. (*Impatiens*) 3
- lizard's tail (*Saururus cernuus*) 4
- lobelia spp. (*Lobelia*) 4
- *marsh marigold (*Caltha palustris*) 7
- *moonseed (*Menispermum canadense*) 6
- primrose-willow spp. (*Epilobium Ludwigia*) 3
- rose mallow spp. (*Hibiscus*) 4
- smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- halbredleaf tearthumb (*Polygonum arifolium*) 10
- sneezeweed (*Helenium autumnale*) 3
- stinging nettle (*Laportea canadensis*) 2
- *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- *Virginia bluebells (*Mertensia virginica*) 6
- waterhemp (*Amaranthus tuberculatus*) 1
- wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- aven spp.: round, white (*Geum*) 2
- *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- chervil (*Chaerophyllum procumbens*) 3
- *cowbane (*Oxypolis rigidior*) 7
- *great angelica (*Angelica atropurpurea*) 6
- hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- honewort (*Cryptotaenia canadensis*) 3
- meadow rue spp. (*Thalictrum*) 5
- poison ivy (*Rhus radicans*) 1
- *queen-of-the prairie (*Filipendula rubra*) 9
- senna spp. (*Cassia*) 4
- swamp agrimony (*Agrimonia parviflora*) 4
- *swamp thistle (*Cirsium muticum*) 8
- tall coneflower (*Rudbeckia laciniata*) 3
- *water hemlock spp. (*Cicuta*) 7
- water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- bladdernut (*Staphylea trifolia*) 5
- buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- buttonbush (*Cephalanthus occidentalis*) 5
- dogwood, red-osier (*Cornus stolonifera*) 4
- *dogwood, blue-fruited or silky (*Cornus obliqua*)
- dogwood, gray (*Cornus racemosa*) 2
- elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- *cranberry spp. (*Vaccinium*) 10
- *dwarf birch (*Betula pumila*) 10
- *highbush blueberry (*Vaccinium corymbosum*) 9
- *leatherleaf (*Chamaedaphne calyculata*) 10
- meadowsweet and Hardhack spp. (*Spiraea*) 4
- *ninebark (*Physocarpus opulifolius*) 7
- *shrubby cinquefoil (*Potentilla fruticosa*) 9
- spice bush (*Lindera benzoin*) 5
- *swamp dewberry (*Rubus hispidus*) 6
- *swamp holly and winterberry spp. (*Ilex*) 7
- swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- *tamarack (*Larix laricina*) 10

Trees - leaves compound

- *ash, black (*Fraxinus nigra*) 7
- ash, green (*Fraxinus pensylvanica*) 3
- *ash, pumpkin (*Fraxinus tomentosa*) 8
- boxelder (*Acer negundo*) 1
- hickory, bitternut (*Carya cordiformis*) 5
- hickory, shellbark (*Carya laciniosa*) 8
- honey locust (*Gleditsia triacanthos*) 1
- *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- red maple (*Acer rubrum*) 5
- silver maple (*Acer saccharinum*) 1

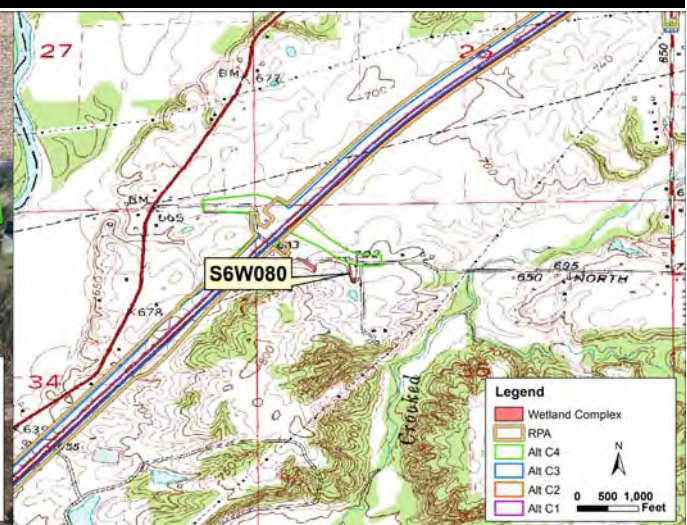
Trees - leaves simple and alternate

- *alder, speckled (*Alnus rugosa*) 9
- river birch (*Betula nigra*) 2
- black, gum (*Nyssa sylvatica*) 5
- cottonwood, eastern (*Populus deltoides*) 1
- cottonwood, swamp (*Populus heterophylla*) 8
- elm, American (*Ulmus americana*) 3
- hackberry (*Celtis occidentalis*) 3
- ironwood (*Carpinus caroliniana*) 5
- oak, pin or white (*Quercus*) 4
- *oak, Shumard's, swamp chestnut, swamp white
- *pawpaw (*Asimina triloba*) 6
- *sugarberry (*Celtis laevigata*) 7
- sweet gum (*Liquidambar styraciflua*) 4
- sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- additional sp. = 7

Wetland S6W080



Wetland Location on 2015 Aerial Photograph



Wetland Location on Mooresville East USGS Quadra

Basin: White River - Sinking Creek
14-digit HUC: 05120201140040
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.1984
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Mooresville East
County: Morgan
Township: T13N
Range: R2E
Section: 35
Quarter: NW
Latitude: 39.527706
Longitude: -86.283715

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W080A	Scrub-Carr	PSS	0.1984	fair	poor	fair	Alt C1	0.02	8.8%
							Alt C2	0.02	8.8%
							Alt C3	0.02	8.8%
							Alt C4	0.02	8.8%
							RPA	0.00	0.0%

Wetland S6W080



Polygon S6W080A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: Mooreville EastUSGS Watershed map 14-Digit HUC: White River - Sinking Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W080A	PSS1	0.1984

1.2 Site VisitTeam Members: R. Hook, R. Connolly, C. Meador (originally JFNew)Agency: HNTBDate assessed: 8/31/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1984Size of wetland complex: 0.1984**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>25</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>75</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

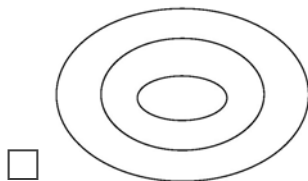
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

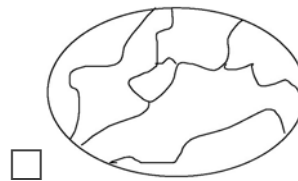
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Impatiens capensis*
- b. *Leersia oryzoides*
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. *Sambucus nigra*
- b. *Lonicera X bella*
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. *Cornus amomum*
- b. *Celtis occidentalis*
- c. *Salix nigra*
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ✓ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ✓ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ✓ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ✓ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ✓ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ✓ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W082



Wetland Location on 2015 Aerial Photograph



Wetland Location on Moorsville East USGS Quadra

Basin: White River - Sinking Creek
14-digit HUC: 05120201140040
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0240
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Moorsville East
County: Morgan
Township: T13N
Range: R2E
Section: 26
Quarter: SE
Latitude: 39.536903
Longitude: -86.277928

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W082A	Wet Meadow	PEM	0.0240	poor	poor	fair	Alt C1	0.02	100.0%
							Alt C2	0.02	100.0%
							Alt C3	0.02	81.2%
							Alt C4	0.02	100.0%
							RPA	0.02	100.0%

Wetland S6W082



Polygon S6W082A



Polygon S6W082A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W082

Date of Site Visit: Wednesday, October 21, 2015

Tier 1 Summary:

- a. Total Wetland Area (acres): 0.0240
- b. Wetland size and connectivity - contribution to animal habitat:
- | | | | | |
|--|----------|----------------|-----------|---------|
| | Valuable | More Favorable | Favorable | Neutral |
|--|----------|----------------|-----------|---------|
- c. Surrounding land use - numerical rank (max. = 1): 0.32
- d. Value surrounding area adds to animal habitat:
- | | | | |
|--|----------|-----------|-----|
| | Valuable | Favorable | Low |
|--|----------|-----------|-----|

Tier 2 SUMMARY:

Polygon ID S6W082A

- a. **Indiana Wetland community type:** Wet Meadow
- b. Standing water - contribution to animal habitat:
- | | | | |
|--|----------|-----------|---------|
| | Valuable | Favorable | Neutral |
|--|----------|-----------|---------|
- c. Disturbances to site: road/railroad
- d. Exotic species rating:
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|
- e. Special Hydrologic Conditions Observed: None
- f. Special Community Type: None
- g. Rare-Threatened-Endangered Species: None
- h. Polygon Quality Descriptor:
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|

Tier 3A SUMMARY:

- a. Dead woody material as indicator of animal habitat:
- | | | | |
|--|----------|-----------|---------|
| | Valuable | Favorable | Neutral |
|--|----------|-----------|---------|
- b. Water quality protection - numerical rank (6 max.): 3
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|
- c. Flood and storm water storage - numerical rank (5 max.): 2
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|

Tier 3B SUMMARY:

- a. Zonation and interspersions as indicator of animal habitat:
- | | | | |
|--|----------|-----------|---------|
| | Valuable | Favorable | Neutral |
|--|----------|-----------|---------|
- b. Stratification as indicator of animal habitat:
- | | | | |
|--|----------|--|---------|
| | Valuable | | Neutral |
|--|----------|--|---------|
- c. Number of dominant plant taxa observed: 2
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|
- d. Average coefficient of conservatism: 0
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|
- e. Tree canopy as indicator of animal habitat:
- | | | | |
|--|----------|--|---------|
| | Valuable | | Neutral |
|--|----------|--|---------|
- f. Mature trees as indicator of animal habitat:
- | | | | |
|--|----------|-----------|---------|
| | Valuable | Favorable | Neutral |
|--|----------|-----------|---------|
- g. Total hydrophytic taxa observed: 4
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|
- h. Number of indicator taxa: 0
- | | | | |
|--|------|--------|------|
| | Good | Medium | Poor |
|--|------|--------|------|

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: Mooreville EastUSGS Watershed map 14-Digit HUC: White River - Sinking Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W082A	PEM1	0.0240

1.2 Site VisitTeam Members: R. HookAgency: HNTBDate assessed: 10/21/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.024Size of wetland complex: 0.024**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>20</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>80</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

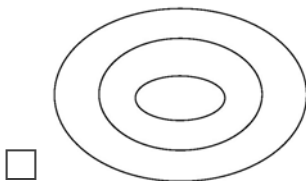
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

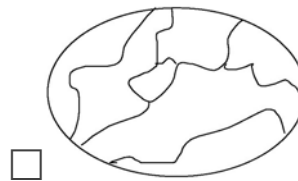
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Phalaris arundinacea*

d. _____

b. *Setaria faberi*

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ✓ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W083



Wetland Location on 2015 Aerial Photograph



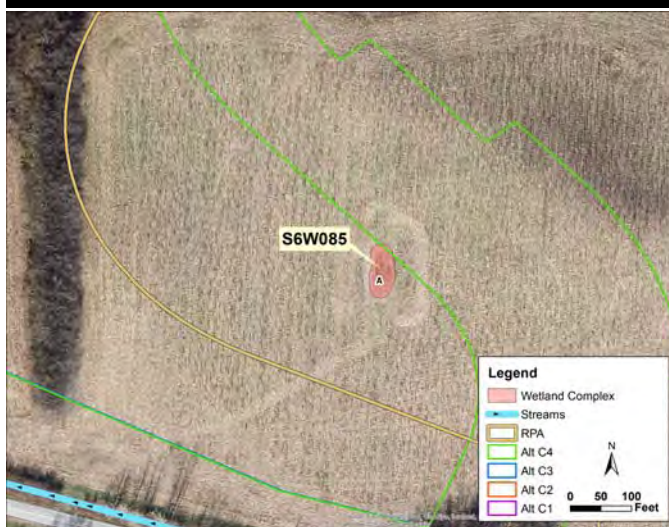
Wetland Location on Mooresville East USGS Quadra

Basin: White River - Sinking Creek
14-digit HUC: 05120201140040
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

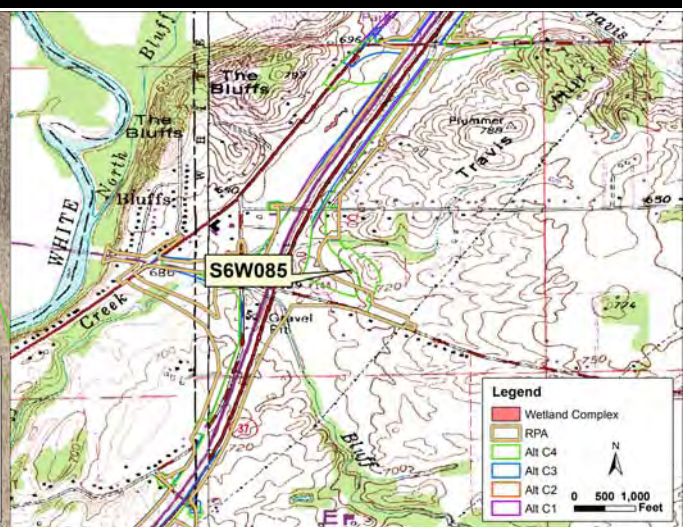
Quadrangle: Mooresville East
County: Morgan
Township: T13N
Range: R2E
Section: 24
Quarter: SW
Latitude: 39.546643
Longitude: -86.268913

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W083A	Pond	PUB	1.1827	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.2%

Wetland S6W085



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargersville USGS Quadrangle

Basin: White River - North Bluff/Bluff Cre
14-digit HUC: 05120201140030
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0538
USACE Jurisdiction: No
IDEM Jurisdiction: Yes

Quadrangle: Bargersville
County: Johnson
Township: T13N
Range: R3E
Section: 18
Quarter: SW
Latitude: 39.566003
Longitude: -86.243634

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W085A	Wet Meadow	PEM	0.0538	poor	poor	poor	Alt C1	0.00	4.3%
							Alt C2	0.00	4.3%
							Alt C3	0.00	4.3%
							Alt C4	0.00	4.3%
							RPA	0.00	0.0%

Wetland S6W085



Polygon S6W085A



Polygon S6W085A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: BargersvilleUSGS Watershed map 14-Digit HUC: White River - North Bluff/Bluff Creeks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W085A	PEM1	0.0538

1.2 Site VisitTeam Members: R. Hook, R. ConnollyAgency: HNTBDate assessed: 10/20/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0538Size of wetland complex: 0.0538**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>0</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>100</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

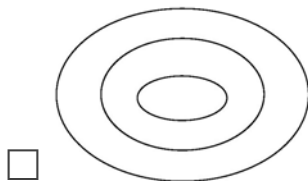
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

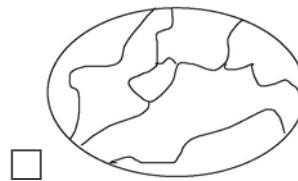
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|--------------------------------------|----------|
| a. <u><i>Cyperus esculentus</i></u> | d. _____ |
| b. <u><i>Xanthium strumarium</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ✓ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

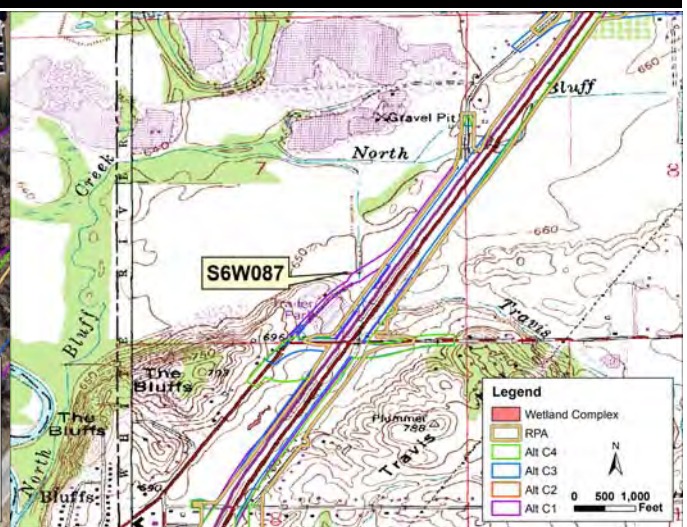
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W087



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargserville USGS Quadrangle

Basin: White River - North Bluff/Bluff Cre
14-digit HUC: 05120201140030
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0912
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Bargserville
County: Johnson
Township: T13N
Range: R3E
Section: 7
Quarter: SE
Latitude: 39.579262
Longitude: -86.240291

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W087A	Shallow Open Water	PUB	0.0912	poor	fair	poor	Alt C1	0.00	1.3%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W087



Polygon S6W086A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W087

Date of Site Visit: Thursday, July 09, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0912

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable **Neutral**

c. Surrounding land use - numerical rank (max. = 1): 0.73

d. Value surrounding area adds to animal habitat: **Valuable** Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W087A

a. **Indiana Wetland community type:** Deep Marsh/Shallow Open Water

b. Standing water - contribution to animal habitat: Valuable **Favorable** Neutral

c. Disturbances to site: other

d. Exotic species rating: **Good** Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium **Poor**

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable **Neutral**

b. Water quality protection - numerical rank (6 max.): 1 Good Medium **Poor**

c. Flood and storm water storage - numerical rank (5 max.): 2 Good **Medium** Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable **Neutral**

b. Stratification as indicator of animal habitat: Valuable **Neutral**

c. Number of dominant plant taxa observed: 5 **Good** Medium Poor

d. Average coefficient of conservatism: 1.6 Good Medium **Poor**

e. Tree canopy as indicator of animal habitat: Valuable **Neutral**

f. Mature trees as indicator of animal habitat: Valuable Favorable **Neutral**

g. Total hydrophytic taxa observed: 5 **Good** Medium Poor

h. Number of indicator taxa: 0 Good Medium **Poor**

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: BargersvilleUSGS Watershed map 14-Digit HUC: White River - North Bluff/Bluff Creeks

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W087A	PUB3	0.0912

1.2 Site VisitTeam Members: R. Hook/ R. ConnollyAgency: HNTBDate assessed: 7/9/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

Golf course pond
_____**1.3 Wetland Size**Size of site under assessment: 0.0912Size of wetland complex: 0.0912**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>10</u>	Native Vegetation - woodland	<u>0</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>90</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

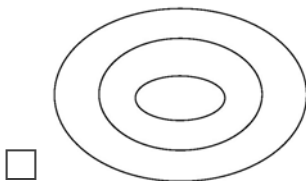
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

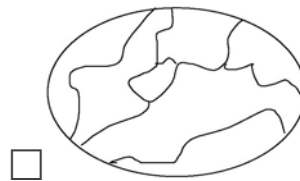
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. *Typha latifolia*

d. _____

b. *Potamogeton sp.*

e. _____

c. *Spirodela polyrhiza*

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. *Salix interior*

c. _____

b. *Acer saccharinum*

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ✓ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ✓ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

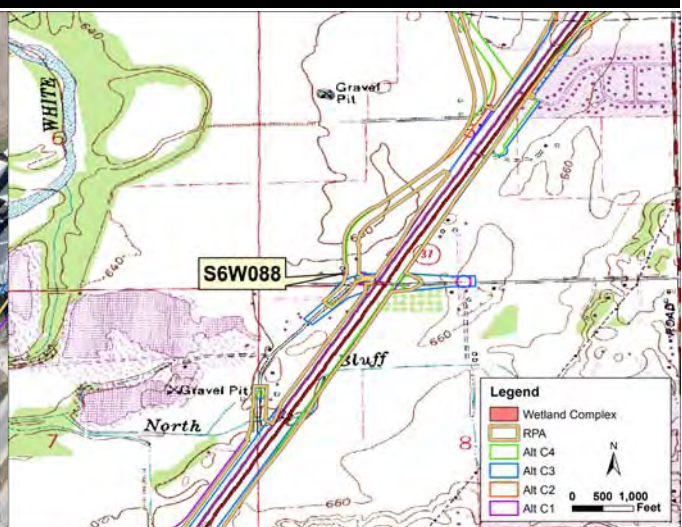
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W088



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargersville USGS Quadrangle

Basin: White River - North Bluff/Bluff Cre
14-digit HUC: 05120201140030
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Bargersville
County: Johnson
Township: T13N
Range: R3E
Section: 5
Quarter: SW
Latitude: 39.591471
Longitude: -86.231129

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W088A	Pond	PUB	0.1252	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.02	18.5%
							Alt C3	0.00	0.0%
							Alt C4	0.02	18.3%
							RPA	0.02	18.4%

Wetland S6W088

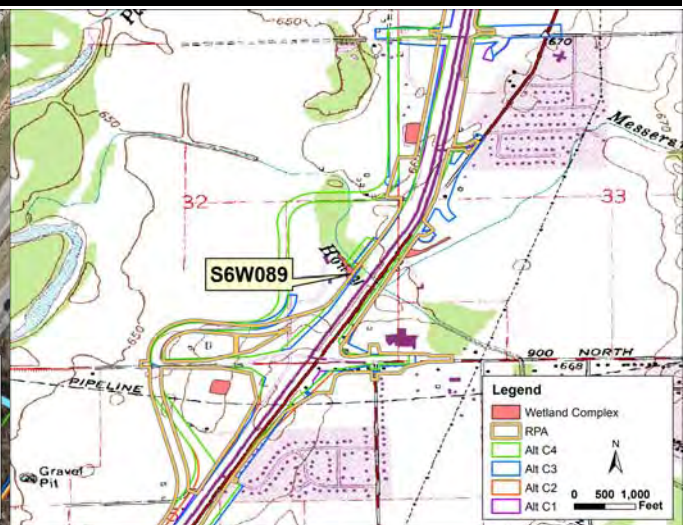


Polygon S6W088A

Wetland S6W089



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargserville USGS Quadrangle

Basin: Honey Creek -Turkey Pen Creek
14-digit HUC: 05120201140010
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.8390
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Bargserville
County: Johnson
Township: T14N
Range: R3E
Section: 32
Quarter: SE
Latitude: 39.608893
Longitude: -86.217592

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W089A	Wet Meadow	PEM	0.1729	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	2.0%
S6W089B	Scrub-Carr	PSS	0.0678	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%
S6W089C	Shallow Open Water	PUB	0.5983	poor	poor	fair	Alt C1	0.22	37.2%
							Alt C2	0.01	1.4%
							Alt C3	0.01	1.4%
							Alt C4	0.22	37.2%
							RPA	0.58	96.5%

Wetland S6W089



Polygon S6W089A



Polygon S6W089A

Wetland S6W089



Polygon S6W089C

Tier 2 SUMMARY:

Polygon ID S6W089B

a. Indiana Wetland community type: <u>Shrub-Carr</u>			
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site: _____			
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed: <u>None</u>			
f. Special Community Type: <u>None</u>			
g. Rare-Threatened-Endangered Species: <u>None</u>			
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.): <u>3</u>	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 max.): <u>1</u>	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed: <u>0</u>	Good	Medium	Poor
d. Average coefficient of conservatism: <u>1.2</u>	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed: <u>5</u>	Good	Medium	Poor
h. Number of indicator taxa: <u>0</u>	Good	Medium	Poor

Tier 2 SUMMARY:**Polygon ID** S6W089C

a. Indiana Wetland community type:	Deep Marsh/Shallow Open Water		
b. Standing water - contribution to animal habitat:	Valuable	Favorable	Neutral
c. Disturbances to site:	<u>other</u>		
d. Exotic species rating:	Good	Medium	Poor
e. Special Hydrologic Conditions Observed:	<u>None</u>		
f. Special Community Type:	<u>None</u>		
g. Rare-Threatened-Endangered Species:	<u>None</u>		
h. Polygon Quality Descriptor:	Good	Medium	Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Water quality protection - numerical rank (6 max.):	Good	Medium	Poor
c. Flood and storm water storage - numerical rank (5 ma	Good	Medium	Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat:	Valuable	Favorable	Neutral
b. Stratification as indicator of animal habitat:	Valuable		Neutral
c. Number of dominant plant taxa observed:	Good	Medium	Poor
d. Average coefficient of conservatism:	Good	Medium	Poor
e. Tree canopy as indicator of animal habitat:	Valuable		Neutral
f. Mature trees as indicator of animal habitat:	Valuable	Favorable	Neutral
g. Total hydrophytic taxa observed:	Good	Medium	Poor
h. Number of indicator taxa:	Good	Medium	Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: BargersvilleUSGS Watershed map 14-Digit HUC: Honey Creek -Turkey Pen Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W089A	PEM1	0.1729
S6W089B	PSS1	0.0678
S6W089C	PUBHx	0.5983

1.2 Site VisitTeam Members: R. Hook/ R. ConnollyAgency: HNTBDate assessed: 7/9/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.839Size of wetland complex: 0.839**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

10 Native Vegetation - woodland 10 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 40 Industrial0 Agricultural - tilled 0 Residential - single family0 Agricultural - pasture 0 Commercial or multifamily residential40 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities F Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 0 approximate slope (percent 0)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

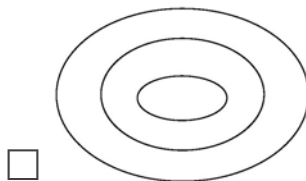
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

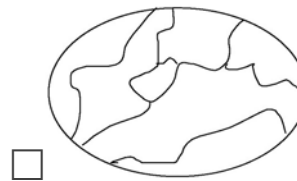
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. *Typha latifolia* d. _____
- b. *Phalaris arundinacea* e. _____
- c. _____ f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____ c. _____
- b. _____ d. _____

Dominant Tree Species listed in order of relative abundance.

- a. *Acer saccharinum* c. *Platanus occidentalis*
- b. *Salix interior* d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ✓ cat-tail spp. (Typha) 1

- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ✓ silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ✓ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface ___ nil scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

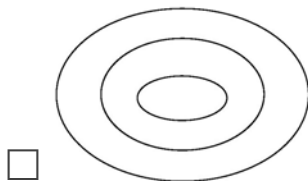
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

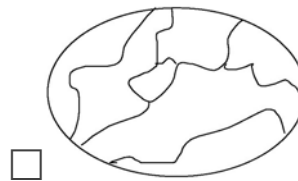
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. _____

d. _____

b. _____

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

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- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ___ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ___ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
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- ___ cup plant (Silphium perfoliatum) 4
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- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
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- ___ toothcup spp. (Ammania Rotala) 2
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- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
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- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Deep Marsh/Shallow Open Water

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

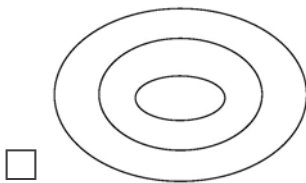
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

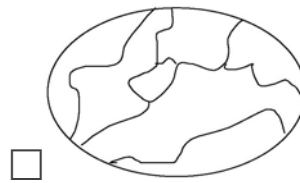
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. _____

d. _____

b. _____

e. _____

c. _____

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
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 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
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 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___*goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___*grass of Parnassus (*Parnassia glauca*) 10
- ___*Indian plantain (*Cacalia plantaginea*) 10
- ___ironweed spp. (*Vernonia*) 4
- ___jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___lizard's tail (*Saururus cernuus*) 4
- ___lobelia spp. (*Lobelia*) 4
- ___*marsh marigold (*Caltha palustris*) 7
- ___*moonseed (*Menispermum canadense*) 6
- ___primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___rose mallow spp. (*Hibiscus*) 4
- ___smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___sneezeweed (*Helenium autumnale*) 3
- ___stinging nettle (*Laportea canadensis*) 2
- ___*swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___*Virginia bluebells (*Mertensia virginica*) 6
- ___waterhemp (*Amaranthus tuberculatus*) 1
- ___wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___aven spp.: round, white (*Geum*) 2
- ___*buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___chervil (*Chaerophyllum procumbens*) 3
- ___*cowbane (*Oxypolis rigidior*) 7
- ___*great angelica (*Angelica atropurpurea*) 6
- ___hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___honestwort (*Cryptotaenia canadensis*) 3
- ___meadow rue spp. (*Thalictrum*) 5
- ___poison ivy (*Rhus radicans*) 1
- ___*queen-of-the prairie (*Filipendula rubra*) 9
- ___senna spp. (*Cassia*) 4
- ___swamp agrimony (*Agrimonia parviflora*) 4
- ___*swamp thistle (*Cirsium muticum*) 8
- ___tall coneflower (*Rudbeckia laciniata*) 3
- ___*water hemlock spp. (*Cicuta*) 7
- ___water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___bladdernut (*Staphylea trifolia*) 5
- ___buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___buttonbush (*Cephalanthus occidentalis*) 5
- ___dogwood, red-osier (*Cornus stolonifera*) 4
- ___*dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___dogwood, gray (*Cornus racemosa*) 2
- ___elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___*cranberry spp. (*Vaccinium*) 10
- ___*dwarf birch (*Betula pumila*) 10
- ___*highbush blueberry (*Vaccinium corymbosum*) 9
- ___*leatherleaf (*Chamaedaphne calyculata*) 10
- ___meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___*ninebark (*Physocarpus opulifolius*) 7
- ___*shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___spice bush (*Lindera benzoin*) 5
- ___*swamp dewberry (*Rubus hispidus*) 6
- ___*swamp holly and winterberry spp. (*Ilex*) 7
- ___swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___*tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___*ash, black (*Fraxinus nigra*) 7
- ___ash, green (*Fraxinus pensylvanica*) 3
- ___*ash, pumpkin (*Fraxinus tomentosa*) 8
- ___boxelder (*Acer negundo*) 1
- ___hickory, bitternut (*Carya cordiformis*) 5
- ___hickory, shellbark (*Carya laciniosa*) 8
- ___honey locust (*Gleditsia triacanthos*) 1
- ___*poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___red maple (*Acer rubrum*) 5
- ___silver maple (*Acer saccharinum*) 1

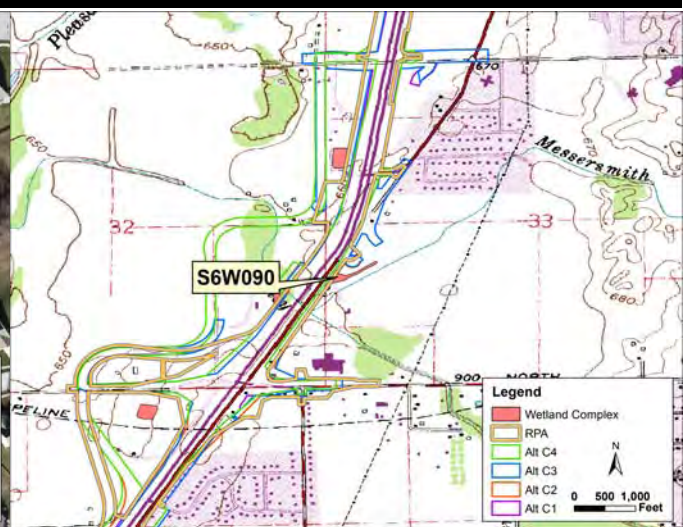
Trees - leaves simple and alternate

- ___*alder, speckled (*Alnus rugosa*) 9
- ___river birch (*Betula nigra*) 2
- ___black, gum (*Nyssa sylvatica*) 5
- ___cottonwood, eastern (*Populus deltoides*) 1
- ___cottonwood, swamp (*Populus heterophylla*) 8
- ___elm, American (*Ulmus americana*) 3
- ___hackberry (*Celtis occidentalis*) 3
- ___ironwood (*Carpinus caroliniana*) 5
- ___oak, pin or white (*Quercus*) 4
- ___*oak, Shumard's, swamp chestnut, swamp white
- ___*pawpaw (*Asimina triloba*) 6
- ___*sugarberry (*Celtis laevigata*) 7
- ___sweet gum (*Liquidambar styraciflua*) 4
- ___sycamore, American (*Platanus occidentalis*) 3
- ___willow spp. (*Salix*) 1 sp. = 3
- ___additional sp. = 7

Wetland S6W090



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargserville USGS Quadrangle

Basin: Honey Creek -Turkey Pen Creek
14-digit HUC: 05120201140010
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Bargserville
County: Johnson
Township: T14N
Range: R3E
Section: 33
Quarter: SW
Latitude: 39.6098
Longitude: -86.214319

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W090A	Pond	PUB	0.7406	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.04	4.9%
							Alt C3	0.03	4.3%
							Alt C4	0.00	0.0%
							RPA	0.00	0.1%

Wetland S6W091



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargserville USGS Quadrangle

Basin: Honey Creek -Turkey Pen Creek
14-digit HUC: 05120201140010
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0221
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Bargserville
County: Johnson
Township: T14N
Range: R3E
Section: 32
Quarter: SE
Latitude: 39.612016
Longitude: -86.217115

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W091A	Seasonally Flooded Basin	PEM	0.0221	fair	poor	poor	Alt C1	0.00	0.0%
							Alt C2	0.02	100.0%
							Alt C3	0.00	0.0%
							Alt C4	0.02	100.0%
							RPA	0.00	0.0%

Wetland S6W091



Polygon S6W091A



Polygon S6W091A

Wetland S6W091



Polygon S6W091A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W091

Date of Site Visit: Thursday, April 21, 2016

Tier 1 Summary:

- a. Total Wetland Area (acres): 0.0221
- b. Wetland size and connectivity - contribution to animal habitat:
- | | | | |
|----------|----------------|-----------|---------|
| Valuable | More Favorable | Favorable | Neutral |
|----------|----------------|-----------|---------|
- c. Surrounding land use - numerical rank (max. = 1): 0.50
- d. Value surrounding area adds to animal habitat:
- | | | |
|----------|-----------|-----|
| Valuable | Favorable | Low |
|----------|-----------|-----|

Tier 2 SUMMARY:

Polygon ID S6W091A

- a. **Indiana Wetland community type:** Seasonally Flooded Basin
- b. Standing water - contribution to animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- c. Disturbances to site: ditches tiles
- d. Exotic species rating:
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- e. Special Hydrologic Conditions Observed: None
- f. Special Community Type: None
- g. Rare-Threatened-Endangered Species: None
- h. Polygon Quality Descriptor:
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 3A SUMMARY:

- a. Dead woody material as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- b. Water quality protection - numerical rank (6 max.): 2
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- c. Flood and storm water storage - numerical rank (5 ma 1
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 3B SUMMARY:

- a. Zonation and interspersions as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- b. Stratification as indicator of animal habitat:
- | | |
|----------|---------|
| Valuable | Neutral |
|----------|---------|
- c. Number of dominant plant taxa observed: 4
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- d. Average coefficient of conservatism: 0.3
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- e. Tree canopy as indicator of animal habitat:
- | | |
|----------|---------|
| Valuable | Neutral |
|----------|---------|
- f. Mature trees as indicator of animal habitat:
- | | | |
|----------|-----------|---------|
| Valuable | Favorable | Neutral |
|----------|-----------|---------|
- g. Total hydrophytic taxa observed: 4
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|
- h. Number of indicator taxa: 0
- | | | |
|------|--------|------|
| Good | Medium | Poor |
|------|--------|------|

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: BargersvilleUSGS Watershed map 14-Digit HUC: Honey Creek -Turkey Pen Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W091A	PEM1	0.0221

1.2 Site VisitTeam Members: Kate Lucier, Allie GatesAgency: Lochmueller GroupDate assessed: 4/21/2016Time assessed: 4:00:00 PMWeather conditions: Cloudy, 55 deg F

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

Precipitation previous 2 days: _____

1.3 Wetland SizeSize of site under assessment: 0.0221Size of wetland complex: 0.0221**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>25</u>	Native Vegetation - woodland	<u>0</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>0</u>	Agricultural - tilled	<u>25</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>50</u>	Commercial or multifamily residential
<u>0</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

S Garlic Mustard Glossy Buckthorn
 Phragmities S Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface ___ nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

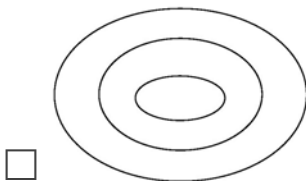
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

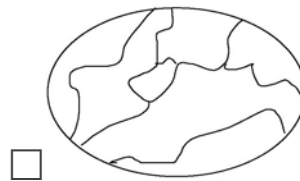
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|----------|
| a. <u><i>Phalaris arundinacea</i></u> | d. _____ |
| b. <u><i>Ambrosia trifida</i></u> | e. _____ |
| c. <u><i>Alliaria petiolata</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|-------------------------------|----------|
| a. <u><i>Acer negundo</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ✓ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ✓ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ✓ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

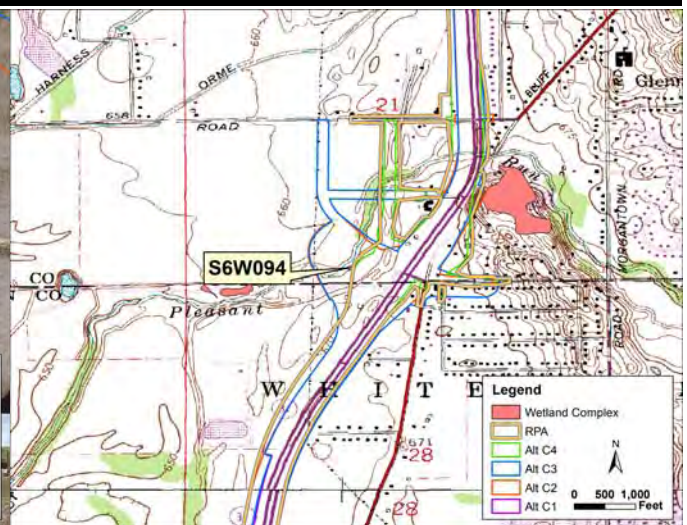
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W094



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: Pleasant Run Creek - Buffalo Cre
14-digit HUC: 05120201130110
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0365
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 21
Quarter: SW
Latitude: 39.634925
Longitude: -86.208004

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W094A	Wet Meadow	PEM	0.0365	fair	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.04	100.0%
							Alt C3	0.04	100.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W094



Polygon S6W094A



Polygon S6W094A

Wetland S6W094



Polygon S6W094A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W094

Date of Site Visit: Thursday, May 28, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0365

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.82

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W094A

a. Indiana Wetland community type: Wet Meadow

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: _____

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 5 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 max.): 3 Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 5 Good Medium Poor

d. Average coefficient of conservatism: 2 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 6 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: Pleasant Run Creek - Buffalo Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W094A	PEM1C	0.0365

1.2 Site VisitTeam Members: R. Hook, R. Connolly, C. MeadorAgency: HNTBDate assessed: 5/28/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0365Size of wetland complex: 0.0365**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>60</u>	Native Vegetation - woodland	<u>0</u>	Road / highway / railroad bed / parking lot
<u>15</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>15</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>10</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

F Garlic Mustard Glossy Buckthorn
 Phragmities C Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
- Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 50 approximate slope (percent 5)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
- Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

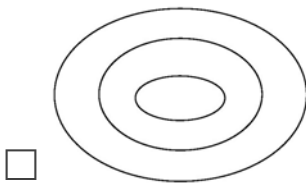
1. How many vegetation zones are evident in this wetland polygon? 1

1b. If only one vegetation zone is evident, which best describes the site?

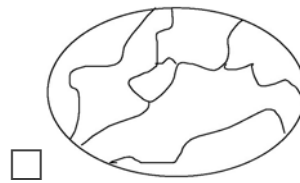
- Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.
- Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
 25 - 50%
 50 - 75%
 75 - 90%
 >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|-----------------------------------|
| a. <u><i>Phalaris arundinacea</i></u> | d. <u><i>Rumex altissimus</i></u> |
| b. <u><i>Barbarea vulgaris</i></u> | e. _____ |
| c. <u><i>Solidago gigantea</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|------------------------------|----------|
| a. <u><i>Salix nigra</i></u> | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other
 - ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ✓ cress spp. (Cardamine) 4
- ✓ dock spp.: swamp, water, pale (Rumex) 4
- ✓ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

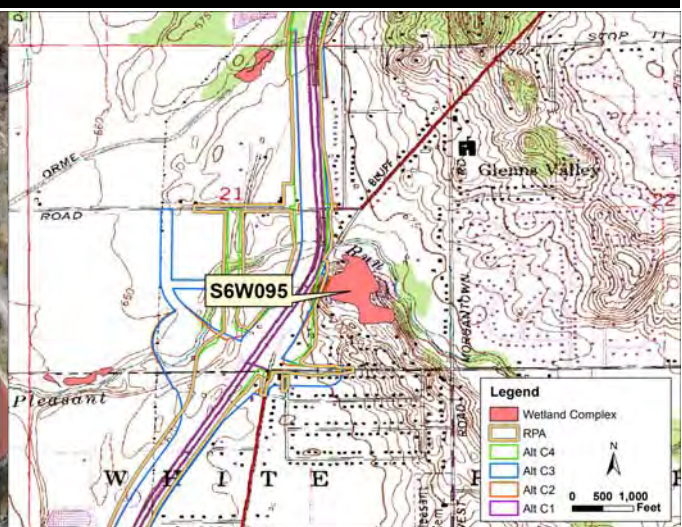
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W095



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: Pleasant Run Creek - Buffalo Cre
14-digit HUC: 05120201130110
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

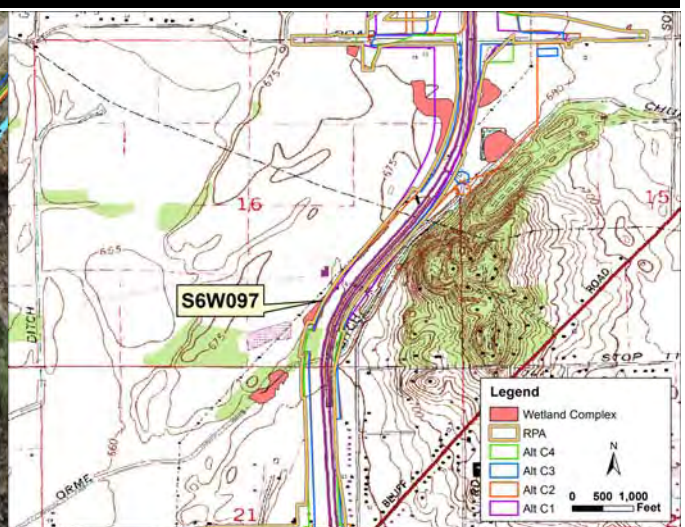
Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 21
Quarter: SE
Latitude: 39.637911
Longitude: -86.20056

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W095A	Pond	PUB	10.9101	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.05	0.4%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W097



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Mann Creek/Harnes
14-digit HUC: 05120201130100
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

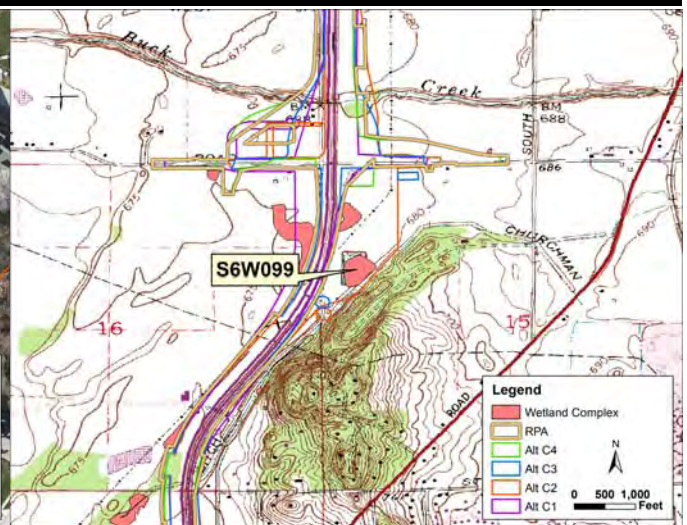
Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 16
Quarter: SE
Latitude: 39.651885
Longitude: -86.202716

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W097A	Pond	PUB	2.0533	no rating	no rating	no rating	Alt C1	0.37	17.9%
							Alt C2	0.34	16.6%
							Alt C3	0.48	23.1%
							Alt C4	0.83	40.3%
							RPA	0.89	43.2%

Wetland S6W099



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Mann Creek/Harnes
14-digit HUC: 05120201130100
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

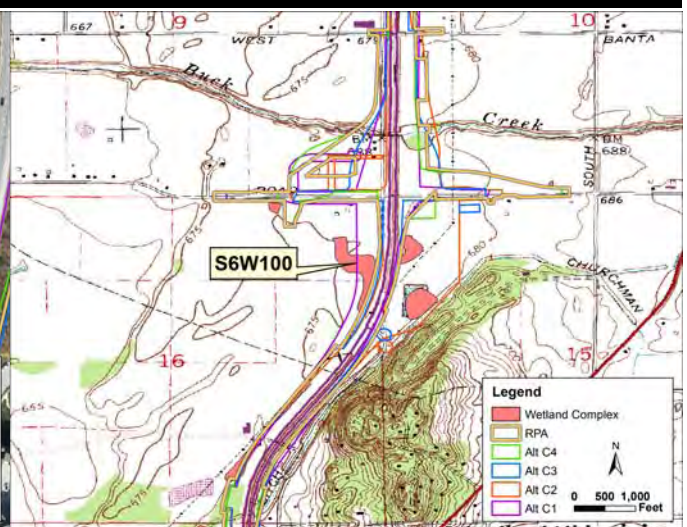
Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 15
Quarter: NW
Latitude: 39.658831
Longitude: -86.195001

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W099A	Pond	PUB	3.1156	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	3.12	100.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W100



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Mann Creek/Harnes
14-digit HUC: 05120201130100
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 16
Quarter: NE
Latitude: 39.660472
Longitude: -86.197826

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W100A	Pond	PUB	5.2788	no rating	no rating	no rating	Alt C1	2.78	52.7%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W100

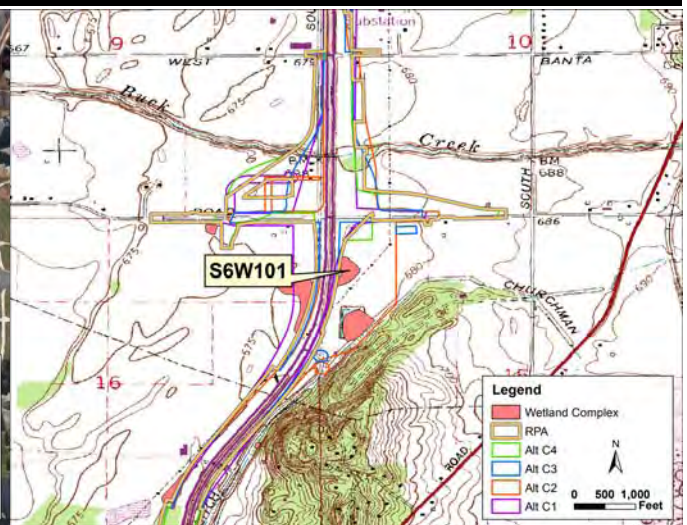


Polygon S6W100A

Wetland S6W101



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Mann Creek/Harnes
14-digit HUC: 05120201130100
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 15
Quarter: NW
Latitude: 39.661215
Longitude: -86.195371

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W101A	Pond	PUB	1.8221	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	1.82	100.0%
							Alt C3	0.00	0.0%
							Alt C4	0.00	0.1%
							RPA	0.00	0.1%

Wetland S6W101

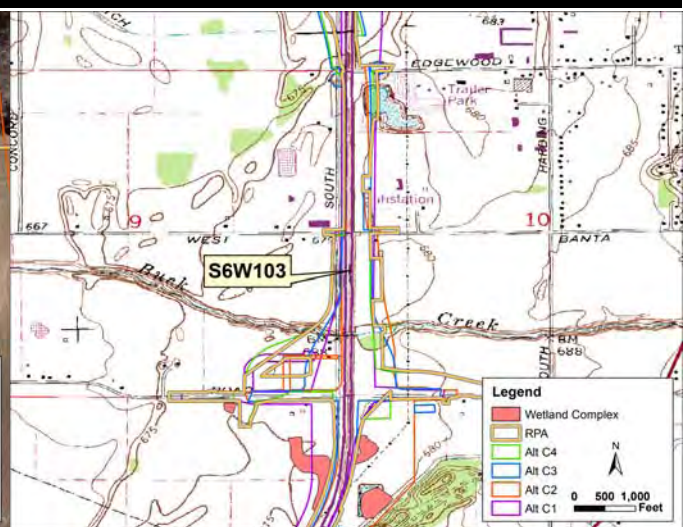


Polygon S6W101A

Wetland S6W103



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: Little Buck Creek (Southport)
14-digit HUC: 05120201130090
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0403
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 10
Quarter: SW
Latitude: 39.669324
Longitude: -86.19609

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W103A	Wet Meadow	PEM	0.0403	poor	poor	fair	Alt C1	0.04	100.0%
							Alt C2	0.04	100.0%
							Alt C3	0.04	100.0%
							Alt C4	0.04	100.0%
							RPA	0.04	100.0%

Wetland S6W103



Polygon S6W103A



Polygon S6W103A

In-WRAP Summary Sheet

Date Report Generated: Friday, September 15, 2017

Wetland Site Name: N/A

Data Reference #: S6W103

Date of Site Visit: Tuesday, September 08, 2015

Tier 1 Summary:

a. Total Wetland Area (acres): 0.0403

b. Wetland size and connectivity - contribution to animal habitat:

Valuable More Favorable Favorable Neutral

c. Surrounding land use - numerical rank (max. = 1): 0.09

d. Value surrounding area adds to animal habitat: Valuable Favorable Low

Tier 2 SUMMARY:

Polygon ID S6W103A

a. **Indiana Wetland community type:** Wet Meadow

b. Standing water - contribution to animal habitat: Valuable Favorable Neutral

c. Disturbances to site: ditches road/railroad

d. Exotic species rating: Good Medium Poor

e. Special Hydrologic Conditions Observed: None

f. Special Community Type: None

g. Rare-Threatened-Endangered Species: None

h. Polygon Quality Descriptor: Good Medium Poor

Tier 3A SUMMARY:

a. Dead woody material as indicator of animal habitat: Valuable Favorable Neutral

b. Water quality protection - numerical rank (6 max.): 2 Good Medium Poor

c. Flood and storm water storage - numerical rank (5 ma 2) Good Medium Poor

Tier 3B SUMMARY:

a. Zonation and interspersions as indicator of animal habitat: Valuable Favorable Neutral

b. Stratification as indicator of animal habitat: Valuable Neutral

c. Number of dominant plant taxa observed: 2 Good Medium Poor

d. Average coefficient of conservatism: 0 Good Medium Poor

e. Tree canopy as indicator of animal habitat: Valuable Neutral

f. Mature trees as indicator of animal habitat: Valuable Favorable Neutral

g. Total hydrophytic taxa observed: 2 Good Medium Poor

h. Number of indicator taxa: 0 Good Medium Poor

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: Little Buck Creek (Southport)

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W103A	PEM1	0.0403

1.2 Site VisitTeam Members: R. Hook, C. MeadorAgency: HNTBDate assessed: 9/8/2015

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0403Size of wetland complex: 0.0403**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u>	Native Vegetation - woodland	<u>80</u>	Road / highway / railroad bed / parking lot
<u>0</u>	Native Vegetation - old field / scrub	<u>0</u>	Industrial
<u>10</u>	Agricultural - tilled	<u>0</u>	Residential - single family
<u>0</u>	Agricultural - pasture	<u>0</u>	Commercial or multifamily residential
<u>10</u>	Recreation - green space, mowed		

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities F Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list): _____

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter ___ 0 ___ approximate slope (percent ___ 0 ___

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

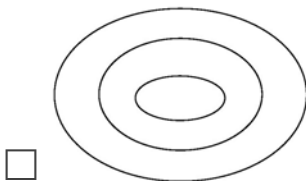
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

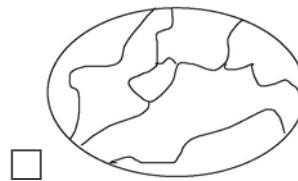
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------------|----------|
| a. <u><i>Phalaris arundinacea</i></u> | d. _____ |
| b. <u><i>Cyperus esculentus</i></u> | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ✓ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___*goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___*grass of Parnassus (*Parnassia glauca*) 10
- ___*Indian plantain (*Cacalia plantaginea*) 10
- ___ironweed spp. (*Vernonia*) 4
- ___jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___lizard's tail (*Saururus cernuus*) 4
- ___lobelia spp. (*Lobelia*) 4
- ___*marsh marigold (*Caltha palustris*) 7
- ___*moonseed (*Menispermum canadense*) 6
- ___primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___rose mallow spp. (*Hibiscus*) 4
- ___smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___sneezeweed (*Helenium autumnale*) 3
- ___stinging nettle (*Laportea canadensis*) 2
- ___*swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___*Virginia bluebells (*Mertensia virginica*) 6
- ___waterhemp (*Amaranthus tuberculatus*) 1
- ___wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___aven spp.: round, white (*Geum*) 2
- ___*buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___chervil (*Chaerophyllum procumbens*) 3
- ___*cowbane (*Oxypolis rigidior*) 7
- ___*great angelica (*Angelica atropurpurea*) 6
- ___hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___honestwort (*Cryptotaenia canadensis*) 3
- ___meadow rue spp. (*Thalictrum*) 5
- ___poison ivy (*Rhus radicans*) 1
- ___*queen-of-the prairie (*Filipendula rubra*) 9
- ___senna spp. (*Cassia*) 4
- ___swamp agrimony (*Agrimonia parviflora*) 4
- ___*swamp thistle (*Cirsium muticum*) 8
- ___tall coneflower (*Rudbeckia laciniata*) 3
- ___*water hemlock spp. (*Cicuta*) 7
- ___water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___bladdernut (*Staphylea trifolia*) 5
- ___buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___buttonbush (*Cephalanthus occidentalis*) 5
- ___dogwood, red-osier (*Cornus stolonifera*) 4
- ___*dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___dogwood, gray (*Cornus racemosa*) 2
- ___elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___*cranberry spp. (*Vaccinium*) 10
- ___*dwarf birch (*Betula pumila*) 10
- ___*highbush blueberry (*Vaccinium corymbosum*) 9
- ___*leatherleaf (*Chamaedaphne calyculata*) 10
- ___meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___*ninebark (*Physocarpus opulifolius*) 7
- ___*shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___spice bush (*Lindera benzoin*) 5
- ___*swamp dewberry (*Rubus hispidus*) 6
- ___*swamp holly and winterberry spp. (*Ilex*) 7
- ___swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___*tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___*ash, black (*Fraxinus nigra*) 7
- ___ash, green (*Fraxinus pensylvanica*) 3
- ___*ash, pumpkin (*Fraxinus tomentosa*) 8
- ___boxelder (*Acer negundo*) 1
- ___hickory, bittersweet (*Carya cordiformis*) 5
- ___hickory, shellbark (*Carya laciniosa*) 8
- ___honey locust (*Gleditsia triacanthos*) 1
- ___*poison sumac (*Rhus vernix*) 10

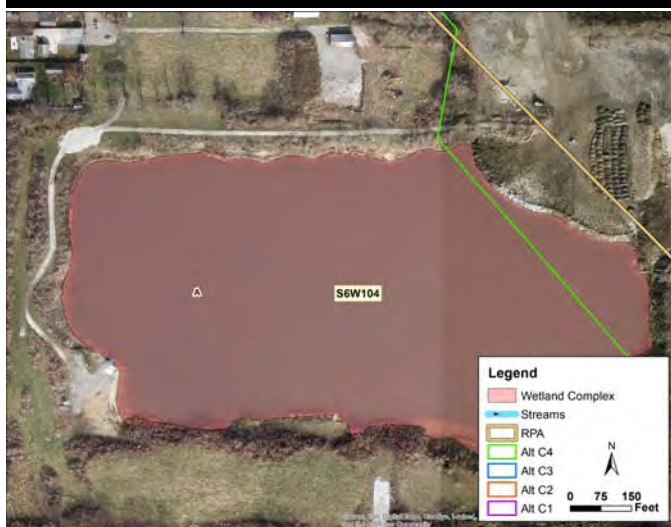
Trees - leaves simple and opposite

- ___red maple (*Acer rubrum*) 5
- ___silver maple (*Acer saccharinum*) 1

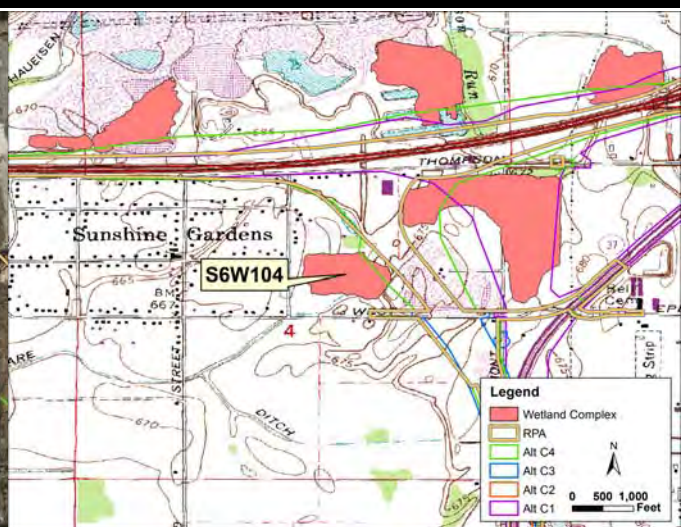
Trees - leaves simple and alternate

- ___*alder, speckled (*Alnus rugosa*) 9
- ___river birch (*Betula nigra*) 2
- ___black, gum (*Nyssa sylvatica*) 5
- ___cottonwood, eastern (*Populus deltoides*) 1
- ___cottonwood, swamp (*Populus heterophylla*) 8
- ___elm, American (*Ulmus americana*) 3
- ___hackberry (*Celtis occidentalis*) 3
- ___ironwood (*Carpinus caroliniana*) 5
- ___oak, pin or white (*Quercus*) 4
- ___*oak, Shumard's, swamp chestnut, swamp white
- ___*pawpaw (*Asimina triloba*) 6
- ___*sugarberry (*Celtis laevigata*) 7
- ___sweet gum (*Liquidambar styraciflua*) 4
- ___sycamore, American (*Platanus occidentalis*) 3
- ___willow spp. (*Salix*) 1 sp. = 3
- ___additional sp. = 7

Wetland S6W104



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 4
Quarter: NE
Latitude: 39.687413
Longitude: -86.203643

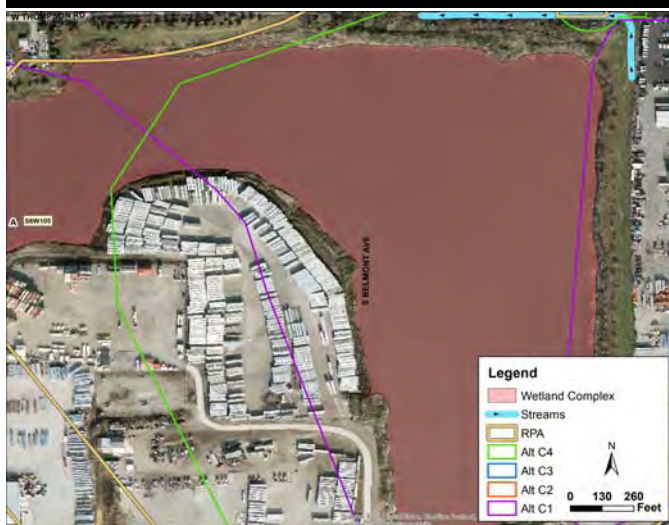
Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W104A	Pond	PUB	14.9733	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	1.13	7.6%
							Alt C3	1.13	7.6%
							Alt C4	1.13	7.6%
							RPA	0.00	0.0%

Wetland S6W104

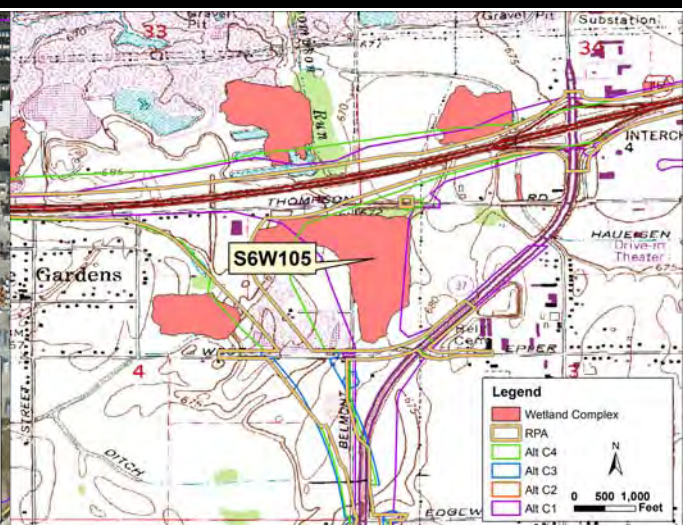


Polygon S6W104A

Wetland S6W105



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 3 and 4
Quarter: NW and NE
Latitude: 39.689938
Longitude: -86.19661

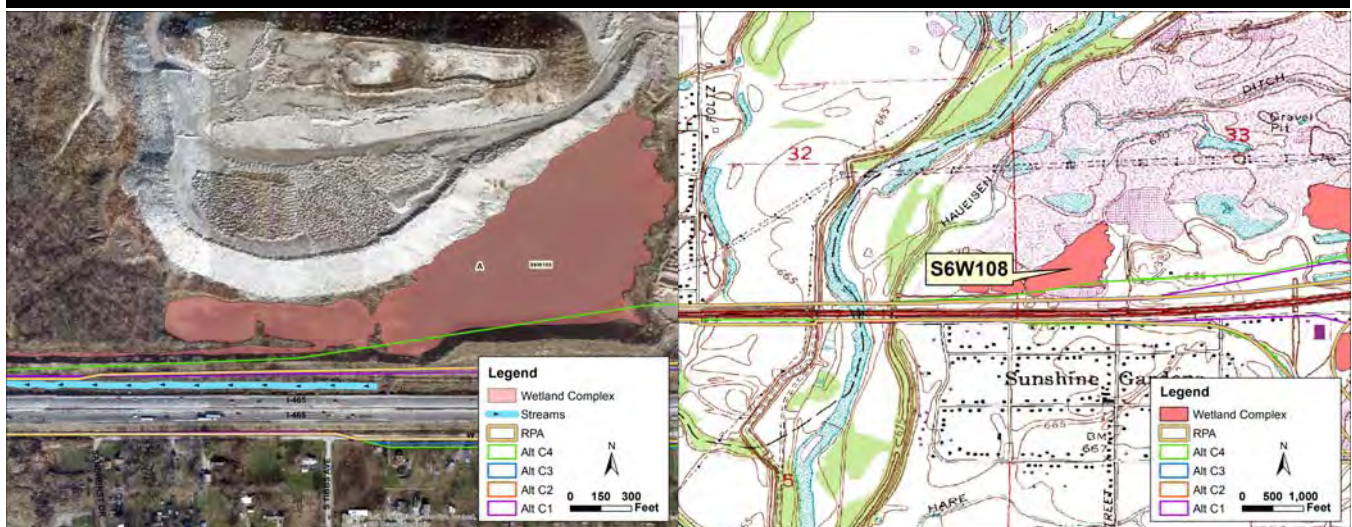
Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W105A	Pond	L1U	46.8198	no rating	no rating	no rating	Alt C1	37.91	81.0%
							Alt C2	8.68	18.5%
							Alt C3	8.68	18.5%
							Alt C4	8.68	18.5%
							RPA	0.16	0.3%

Wetland S6W105



Polygon S6W105A

Wetland S6W108



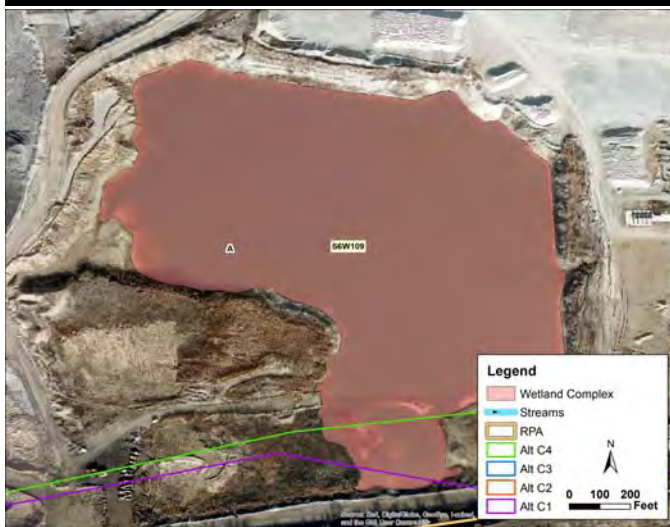
Wetland Location on 2015 Aerial Photograph

Wetland Location on Maywood USGS Quadrangle

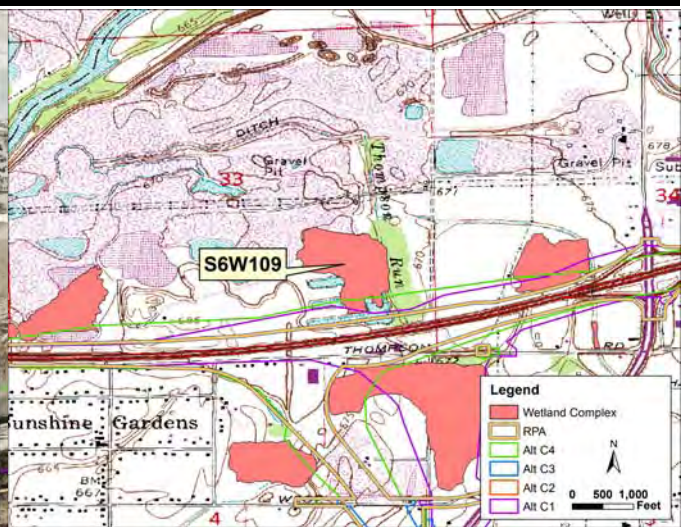
Basin: White River - Hide Creek	Quadrangle: Maywood
14-digit HUC: 05120201130080	County: Marion
Physiographic Region: New Castle Till Plains	Township: T15N
Ecoregion: Eastern Corn Belt Plains	Range: R3E
Natural Region: Tipton Till Plain	Section: 32 and 33
Size of wetland complex (acres):	Quarter: SE and SW
USACE Jurisdiction: Yes	Latitude: 39.694121
IDEM Jurisdiction: Yes	Longitude: -86.213618

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W108A	Pond	L1UB	19.7797	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.67	3.4%
							Alt C3	0.67	3.4%
							Alt C4	0.67	3.4%
							RPA	0.00	0.0%

Wetland S6W109



Wetland Location on 2015 Aerial Photograph



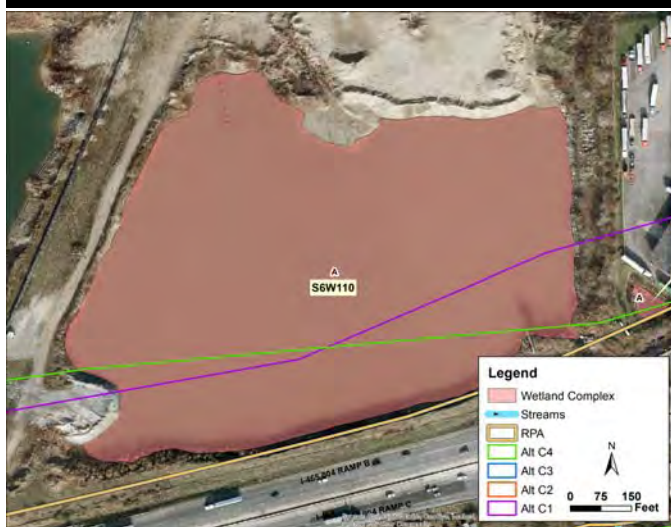
Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

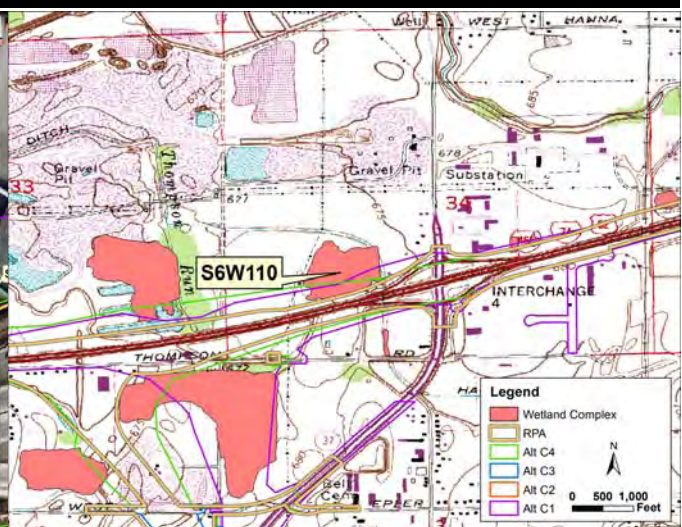
Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 33
Quarter: SE
Latitude: 39.696316
Longitude: -86.200189

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W109A	Pond	PUB	22.9958	no rating	no rating	no rating	Alt C1	0.20	0.9%
							Alt C2	1.64	7.1%
							Alt C3	1.64	7.1%
							Alt C4	1.64	7.1%
							RPA	0.00	0.0%

Wetland S6W110



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 34
Quarter: SW
Latitude: 39.696372
Longitude: -86.191112

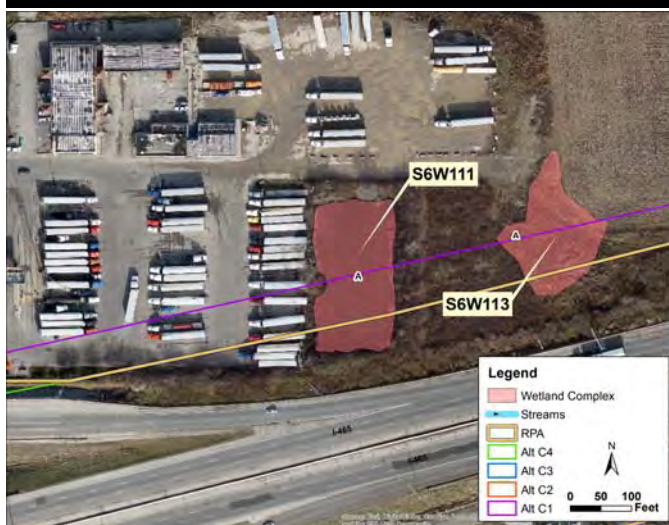
Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W110A	Pond	PUB	15.0215	no rating	no rating	no rating	Alt C1	4.22	28.1%
							Alt C2	3.51	23.3%
							Alt C3	3.51	23.3%
							Alt C4	3.51	23.3%
							RPA	0.00	0.0%

Wetland S6W110

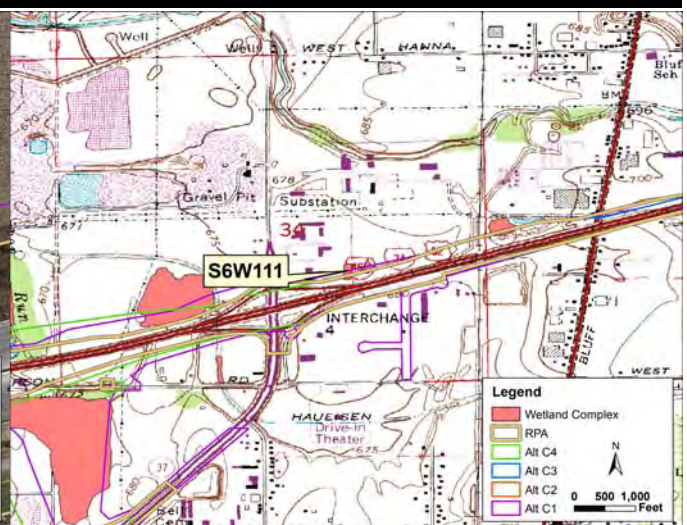


Polygon S6W110A

Wetland S6W111



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 34
Quarter: SE
Latitude: 39.697555
Longitude: -86.183383

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W111A	Pond	PUB	0.5480	no rating	no rating	no rating	Alt C1	0.27	49.7%
							Alt C2	0.10	18.6%
							Alt C3	0.10	18.6%
							Alt C4	0.10	18.6%
							RPA	0.10	18.6%

Wetland S6W111

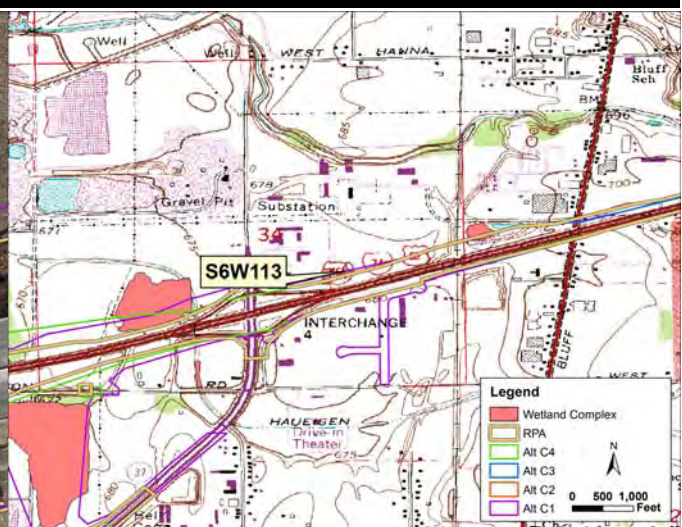


Polygon S6W119A

Wetland S6W113



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.1035
USACE Jurisdiction: No
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 34
Quarter: SE
Latitude: 39.697714
Longitude: -86.182527

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W113A	Scrub-Carr	PSS	0.3874	poor	poor	fair	Alt C1	0.22	56.3%
							Alt C2	0.05	12.0%
							Alt C3	0.05	12.0%
							Alt C4	0.05	12.0%
							RPA	0.05	12.0%

Wetland S6W113



Polygon S6W113A



Polygon S6W113A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: White River - Hide Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W113A	PSS1	0.3874

1.2 Site VisitTeam Members: R. Hook, C. Meador (Originally JFNew)Agency: HNTBDate assessed: 1/21/2016

Time assessed: _____

Weather conditions: _____

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.3874Size of wetland complex: 0.1035**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>10</u> Road / highway / railroad bed / parking lot
<u>30</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>20</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>40</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Shrub-Carr

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife S Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 - Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 - Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter _____) approximate slope (percent _____)

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 - Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 - Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

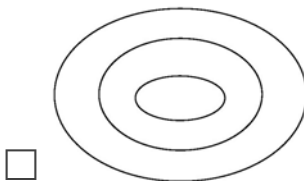
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

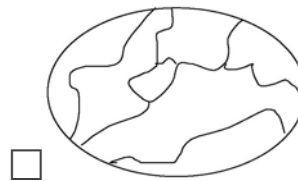
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? Yes

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. _____ d. _____

b. _____ e. _____

c. _____ f. _____

Dominant Shrub Species listed in order of relative abundance.

a. Lonicera X bella c. _____

b. _____ d. _____

Dominant Tree Species listed in order of relative abundance.

a. Salix interior c. _____

b. Cornus amomum d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- ___ *pitcher plant (Sarracenia purpurea) (10)
- ___ *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ___ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ___ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
 - ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4: cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 - ___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ___ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ✓ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ✓ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ✓ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniata*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

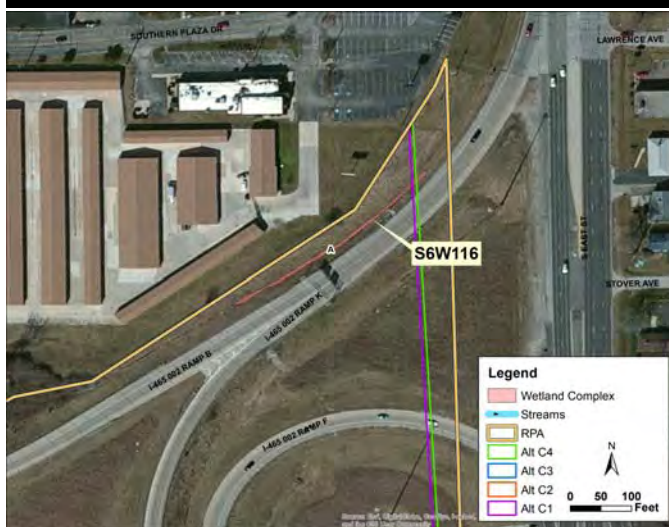
Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

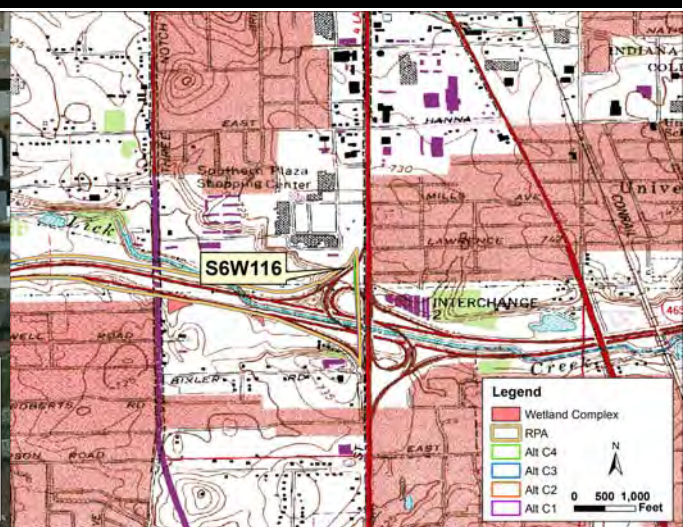
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ✓ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W116



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: Lick Creek - Beech Creek
14-digit HUC: 05120201130060
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.0396
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 36
Quarter: NW
Latitude: 39.701589
Longitude: -86.149888

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W116A	Wet Meadow	PEM	0.0396	poor	poor	poor	Alt C1	0.04	90.7%
							Alt C2	0.04	93.4%
							Alt C3	0.04	93.4%
							Alt C4	0.04	93.4%
							RPA	0.04	100.0%

Wetland S6W116



Polygon S6W116A



Polygon S6W116A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: Lick Creek - Beech Creek

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W116A	PEM1	0.0396

1.2 Site VisitTeam Members: Rusty YeagerAgency: Lochmueller GroupDate assessed: 6/5/2016

Time assessed: _____

Weather conditions: sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.0396Size of wetland complex: 0.0396**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

0 Native Vegetation - woodland 50 Road / highway / railroad bed / parking lot0 Native Vegetation - old field / scrub 0 Industrial0 Agricultural - tilled 0 Residential - single family0 Agricultural - pasture 50 Commercial or multifamily residential0 Recreation - green space, mowed

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

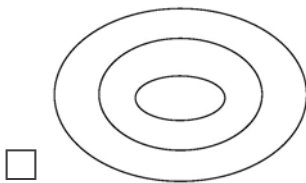
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

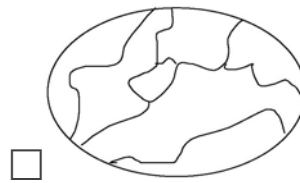
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

10 - 25%

25 - 50%

50 - 75%

75 - 90%

>90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

a. Schedonorus pratensis

d. _____

b. Schoenoplectus tabernaemontani

e. _____

c. Echinochloa muricata

f. _____

Dominant Shrub Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Dominant Tree Species listed in order of relative abundance.

a. _____

c. _____

b. _____

d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ✓ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ✓ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ✓ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Berbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ___ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

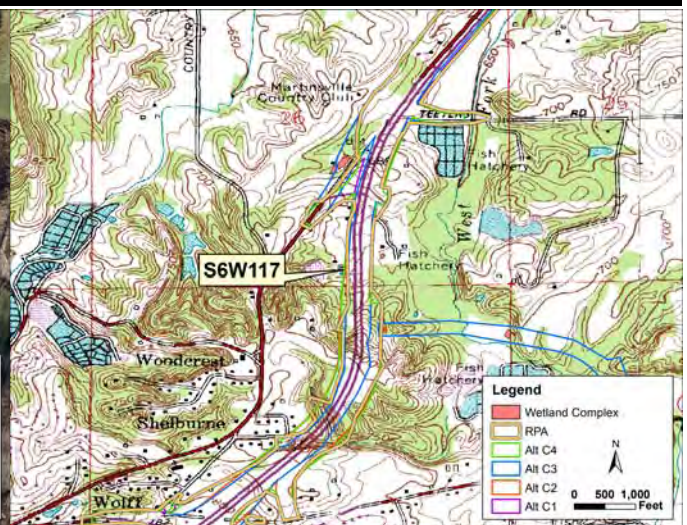
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W117



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 26
Quarter: SE
Latitude: 39.442671
Longitude: -86.38823

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W117A	Pond	PUB	0.2349	no rating	no rating	no rating	Alt C1	0.10	42.2%
							Alt C2	0.10	41.9%
							Alt C3	0.00	0.0%
							Alt C4	0.12	50.1%
							RPA	0.00	0.0%

Wetland S6W117

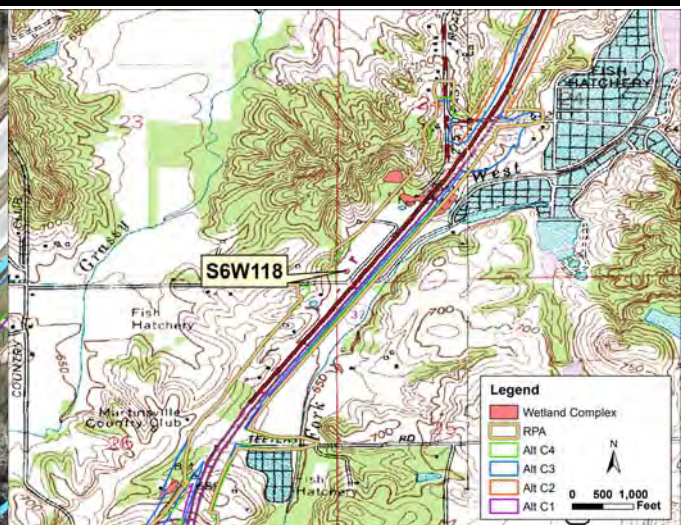


Polygon S6W117A

Wetland S6W118



Wetland Location on 2015 Aerial Photograph



Wetland Location on Martinsville USGS Quadrangle

Basin: Clear Creek - East/West/Grassy
14-digit HUC: 05120201140140
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Martinsville
County: Morgan
Township: T12N
Range: R1E
Section: 24
Quarter: SW
Latitude: 39.457221
Longitude: -86.380433

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W118A	Pond	PUB	0.0950	no rating	no rating	no rating	Alt C1	0.10	100.0%
							Alt C2	0.10	100.0%
							Alt C3	0.10	100.0%
							Alt C4	0.10	100.0%
							RPA	0.10	100.0%

Wetland S6W118

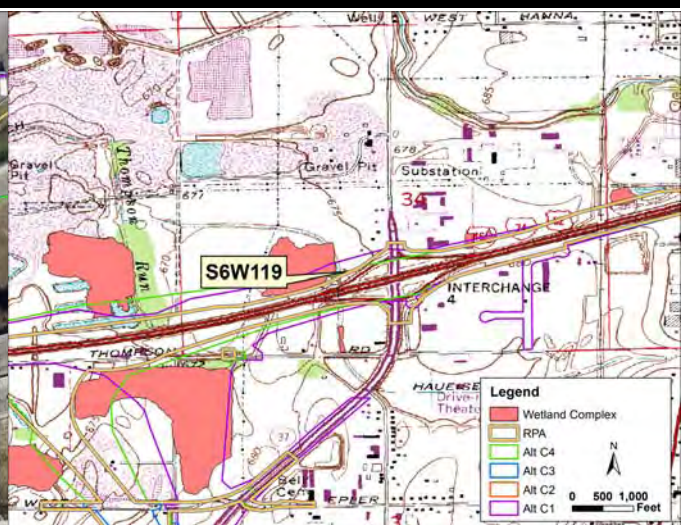


Polygon S6W118A

Wetland S6W119



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: White River - Hide Creek
14-digit HUC: 05120201130080
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 34
Quarter: SW
Latitude: 39.696155
Longitude: -86.188907

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W119A	Pond	PUB	0.0833	no rating	no rating	no rating	Alt C1	0.08	100.0%
							Alt C2	0.03	34.8%
							Alt C3	0.03	34.8%
							Alt C4	0.03	34.8%
							RPA	0.00	4.7%

Wetland S6W119

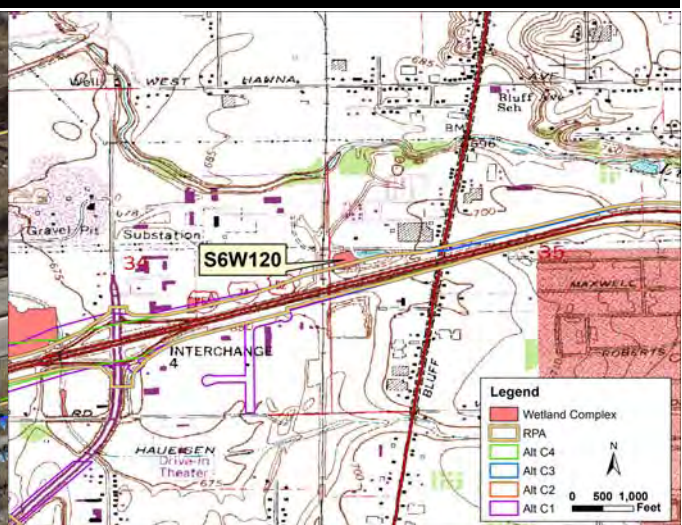


Polygon S6W119A

Wetland S6W120



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: Lick Creek - Beech Creek
14-digit HUC: 05120201130060
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 35
Quarter: SW
Latitude: 39.699539
Longitude: -86.176518

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W120A	Pond	PUB	1.6422	no rating	no rating	no rating	Alt C1	0.26	15.8%
							Alt C2	0.26	15.8%
							Alt C3	0.26	15.8%
							Alt C4	0.26	15.8%
							RPA	0.26	15.8%

Wetland S6W120

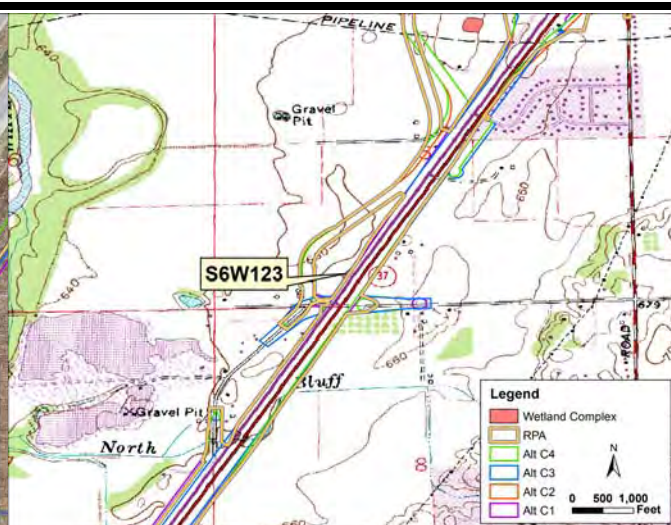


Polygon S6W120A

Wetland S6W123



Wetland Location on 2015 Aerial Photograph



Wetland Location on Bargserville USGS Quadrangle

Basin: White River - North Bluff/Bluff Cre
14-digit HUC: 05120201140030
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres):
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Bargserville
County: Johnson
Township: T13N
Range: R3E
Section: 5
Quarter: SW
Latitude: 39.592442
Longitude: -86.229054

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W123A	Pond	PUB	0.1643	no rating	no rating	no rating	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.03	15.8%
							Alt C4	0.00	0.0%
							RPA	0.00	0.0%

Wetland S6W123

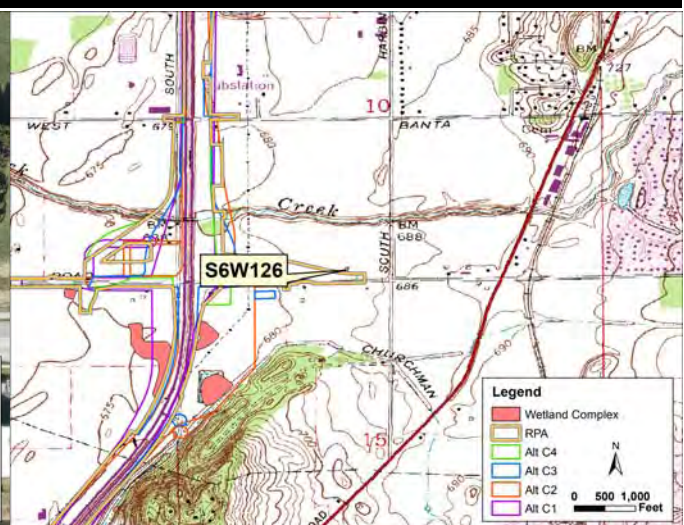


Polygon S6W123A

Wetland S6W126



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: Little Buck Creek (Southport)
14-digit HUC: 05120201130090
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.1186
USACE Jurisdiction: No
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T14N
Range: R3E
Section: 10
Quarter: SW
Latitude: 39.664117
Longitude: -86.189099

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W126A	Seasonally Flooded Basin	PEM	0.1186	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.00	0.0%
							Alt C3	0.00	0.0%
							Alt C4	0.01	5.5%
							RPA	0.01	5.6%

Wetland S6W126



Polygon S6W126A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: Little Buck Creek (Southport)

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W126A	PEM1	0.1186

1.2 Site VisitTeam Members: Rusty YeagerAgency: Lochmueller GroupDate assessed: 7/26/2017

Time assessed: _____

Weather conditions: sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1186Size of wetland complex: 0.1186**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>10</u> Road / highway / railroad bed / parking lot
<u>40</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>50</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife S Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

None

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 75-50 50-25 <25
 Estimated woody plant foliar coverage in the polygon 100-75 75-50 50-25 <25
 Amount of dead woody material on the soil surface nil scattered frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter approximate slope (percent

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

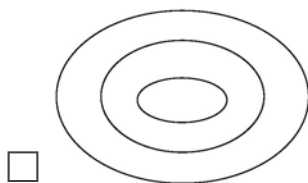
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of a mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

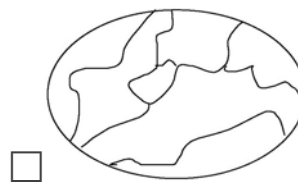
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersed diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|--------------------------------------|----------|
| a. <u><i>Typha latifolia</i></u> | d. _____ |
| b. <u><i>Asclepias incarnata</i></u> | e. _____ |
| c. <u><i>Apocynum cannabinum</i></u> | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
 ___ *ferns: marsh shield fern spp. (Dryopteris) 7
 ___ *cinnamon fern (Osmunda cinnamomea) 9
 ___ *royal fern (Osmunda regalis) 8
 ___ sensitive fern (Onoclea sensibilis) 4
 ___ *other: species (if known)
 ___ marsh club moss (Selaginella apoda) 4
 ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
 ___ coontail (Ceratophyllum demersum) 1
 ___ duckweed spp. (Lemnaceae) 3
 ___ *pondweed spp. (Potamogeton) 8
 ___ curlyleaf pondweed (Potamogeton crispus) 0
 ___ *water lily (Nymphaea tuberosa) 6
 ___ water shield (Brasenia schreberi) 4
 ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
 *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 ___ blueflag iris (Iris virginica) 5
 ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 ___ *bur reed spp. (Sparganium) 9
 ✓ cat-tail spp. (Typha) 1
 ___ *cotton grass spp. (Eriophorum) 10
 Grasses (family Gramineae) - indicate types and number of species
 ___ a. *wild rice (Zizania aquatica) 10
 ___ b. most native perennial grass spp. 4:
 cut-grass, manna-grass, Canada bluepoint, foxtail (Alopecurus); other _____
 ___ c. introduced grass spp. 0: reed canary grass (Phalaris, reed (Phragmites), annual grasses such as annual foxtail (Setaria) and barnyard grass (Echinochloa)
 ___ needle sedge spp. (Eleocharis) 1 sp. = 2
 ___ *additional = 8
 ___ nutsedge spp. (Cyperus) 2
 ___ *orchid spp. 10; species (if know _____)
 ___ rush spp. (Juncus) 4
 ✓ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 ___ *spiderlily (Hymenocallis occidentalis) 9
 ___ sweet flag (Acorus calamus) 0
 ___ *3-way sedge (Dulichium arundinaceum) 10
 ___ *twig rush (Cladium mariscoides) 10
 ___ *umbrella sedge (Fuirena squarrosa) 10
 ___ wild hyacinth (Camassia scilloides) 5
 ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
 ___ arrow-head spp. (Sagittaria) 4
 ___ *green dragon (Arisaema dracontium) 6
 ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
 ___ pickerel weed (Pontederia cordata) 5
 ___ *skunk cabbage (Symplocarpus foetidus) 8
 ___ *water arum (Calla palustris) 10
 ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
 ___ beggar's tick spp. (Bidens) 3
 ___ blue vervain (Berbena hastata) 3
 ___ boneset (Eupatorium perfoliatum) 4
 ___ bugleweed spp. (Lycopus) 5
 ___ clearweed spp. (Pilea) 3
 ___ cup plant (Silphium perfoliatum) 4
 ___ false nettle (Boehmeria cylindrica) 3
 ___ *fen betony (Pedicularis lanceolata) 6
 ___ *gentian spp. (Gentiana Gentianopsis) 8
 ___ giant ragweed (Ambrosia trifida) 0
 ✓ Indian hemp (Apocynum cannabinum) 2
 ✓ Joe-pye weed spp. (Eupatorium) 5
 ___ *loosestrife spp. (Lysimachia) 6
 ___ meadow beauty (Rhexia virginica) 5
 ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
 ___ moneywort (Lysimachia nummularia) 0
 ___ monkey flower spp. (Mimulus) 4
 ___ nettle (Urtica procera) 1
 ___ purple loosestrife (Lythrum salicaria) 0
 ___ *richweed (Collinsonia canadensis) 8
 ___ St. John's wort spp. (Hypericum/Triandem) 8
 ___ sunflower sp. (Helianthus) 4
 ___ *swamp loosestrife (Decodon verticillatus) 8
 ✓ swamp milkweed (Asclepias incarnata) 4
 ___ toothcup spp. (Ammania Rotala) 2
 ___ *turtlehead spp. (Chelone) 8
 ___ virgin's bower (Clematis virginiana) 3
 ___ water purslane (Ludwigia palustris) 3
 ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
 ___ *asters: bristly aster (Aster puniceus) 7
 ___ flat-topped aster (Aster umbellatus) 8
 ✓ other aster spp. (e.g. New England, panicled ast
 ___ *black-eyed Susan (Rudbeckia fulgida) 8
 ___ cardinal flower (Lobelia cardinalis) 4
 ___ cress spp. (Cardamine) 4
 ✓ dock spp.: swamp, water, pale (Rumex) 4
 ___ garlic mustard (Alliaria petiolata) 0
 ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ✓ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ✓ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ___ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

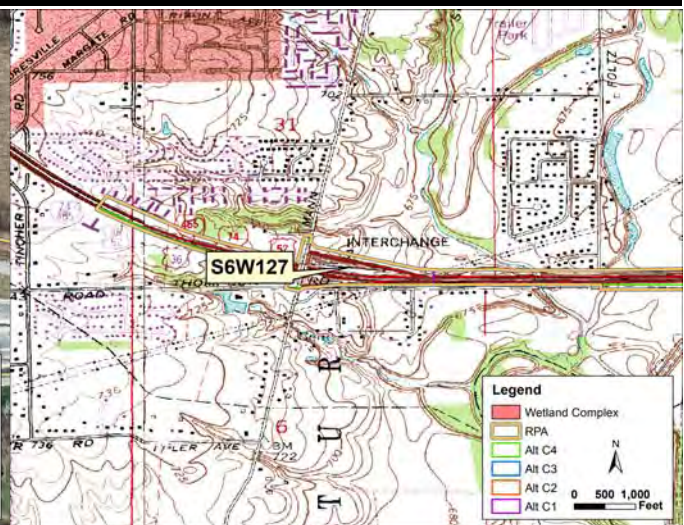
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ___ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W127



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: State Ditch
14-digit HUC: 05120201130070
Physiographic Region: New Castle Till Plains
Ecoregion: Eastern Corn Belt Plains
Natural Region: Tipton Till Plain
Size of wetland complex (acres): 0.2069
USACE Jurisdiction: Yes
IDEM Jurisdiction: Yes

Quadrangle: Maywood
County: Marion
Township: T15N
Range: R3E
Section: 32
Quarter: SE
Latitude: 39.692634
Longitude: -86.240691

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W127A	Scrub-Carr	PSS	0.2069	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.21	100.0%
							Alt C3	0.21	100.0%
							Alt C4	0.21	100.0%
							RPA	0.21	100.0%

Wetland S6W127



Polygon S6W127A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: State Ditch

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W127A	PSS1	0.2069

1.2 Site VisitTeam Members: R. YeagerAgency: Lochmueller GroupDate assessed: 7/26/2017

Time assessed: _____

Weather conditions: sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.2069Size of wetland complex: 0.2069**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>100</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? Yes

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? Yes

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Seasonally Flooded Basin

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmites Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

none

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 Y N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 15 approximate slope (percent 6

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clay and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

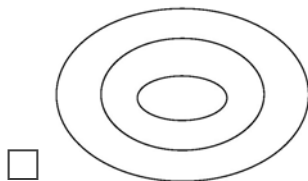
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

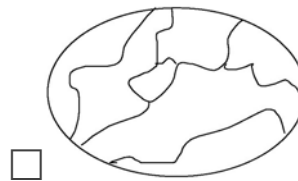
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|----------------------------------|----------|
| a. <u><i>Typha latifolia</i></u> | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|---------------------------------|----------|
| a. <u><i>Salix interior</i></u> | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
- ___ blueflag iris (Iris virginica) 5
- ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
- ___ *bur reed spp. (Sparganium) 9
- ✓ cat-tail spp. (Typha) 1
- ___ *cotton grass spp. (Eriophorum) 10

Grasses (family Gramineae) - indicate types and number of species

- ___ a. *wild rice (Zizania aquatica) 10
- ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
- ✓ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
- ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
- ___ nutsedge spp. (Cyperus) 2
- ___ *orchid spp. 10; species (if know _____)
- ___ rush spp. (Juncus) 4
- ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
- ___ *spiderlily (Hymenocallis occidentalis) 9
- ___ sweet flag (Acorus calamus) 0
- ___ *3-way sedge (Dulichium arundinaceum) 10
- ___ *twig rush (Cladium mariscoides) 10
- ___ *umbrella sedge (Fuirena squarrosa) 10
- ___ wild hyacinth (Camassia scilloides) 5
- ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___ *goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___ *grass of Parnassus (*Parnassia glauca*) 10
- ___ *Indian plantain (*Cacalia plantaginea*) 10
- ___ ironweed spp. (*Vernonia*) 4
- ___ jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___ lizard's tail (*Saururus cernuus*) 4
- ___ lobelia spp. (*Lobelia*) 4
- ___ *marsh marigold (*Caltha palustris*) 7
- ___ *moonseed (*Menispermum canadense*) 6
- ___ primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___ rose mallow spp. (*Hibiscus*) 4
- ___ smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___ halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___ sneezeweed (*Helenium autumnale*) 3
- ___ stinging nettle (*Laportea canadensis*) 2
- ___ *swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___ *Virginia bluebells (*Mertensia virginica*) 6
- ___ waterhemp (*Amaranthus tuberculatus*) 1
- ___ wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___ aven spp.: round, white (*Geum*) 2
- ___ *buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___ chervil (*Chaerophyllum procumbens*) 3
- ___ *cowbane (*Oxypolis rigidior*) 7
- ___ *great angelica (*Angelica atropurpurea*) 6
- ___ hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___ honewort (*Cryptotaenia canadensis*) 3
- ___ meadow rue spp. (*Thalictrum*) 5
- ___ poison ivy (*Rhus radicans*) 1
- ___ *queen-of-the prairie (*Filipendula rubra*) 9
- ___ senna spp. (*Cassia*) 4
- ___ swamp agrimony (*Agrimonia parviflora*) 4
- ___ *swamp thistle (*Cirsium muticum*) 8
- ___ tall coneflower (*Rudbeckia laciniata*) 3
- ___ *water hemlock spp. (*Cicuta*) 7
- ___ water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___ bladdernut (*Staphylea trifolia*) 5
- ___ buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___ buttonbush (*Cephalanthus occidentalis*) 5
- ___ dogwood, red-osier (*Cornus stolonifera*) 4
- ___ *dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___ dogwood, gray (*Cornus racemosa*) 2
- ✓ elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___ *cranberry spp. (*Vaccinium*) 10
- ___ *dwarf birch (*Betula pumila*) 10
- ___ *highbush blueberry (*Vaccinium corymbosum*) 9
- ___ *leatherleaf (*Chamaedaphne calyculata*) 10
- ___ meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___ *ninebark (*Physocarpus opulifolius*) 7
- ___ *shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___ spice bush (*Lindera benzoin*) 5
- ___ *swamp dewberry (*Rubus hispidus*) 6
- ___ *swamp holly and winterberry spp. (*Ilex*) 7
- ___ swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___ *tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___ *ash, black (*Fraxinus nigra*) 7
- ✓ ash, green (*Fraxinus pensylvanica*) 3
- ___ *ash, pumpkin (*Fraxinus tomentosa*) 8
- ___ boxelder (*Acer negundo*) 1
- ___ hickory, bitternut (*Carya cordiformis*) 5
- ___ hickory, shellbark (*Carya laciniosa*) 8
- ___ honey locust (*Gleditsia triacanthos*) 1
- ___ *poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ✓ red maple (*Acer rubrum*) 5
- ___ silver maple (*Acer saccharinum*) 1

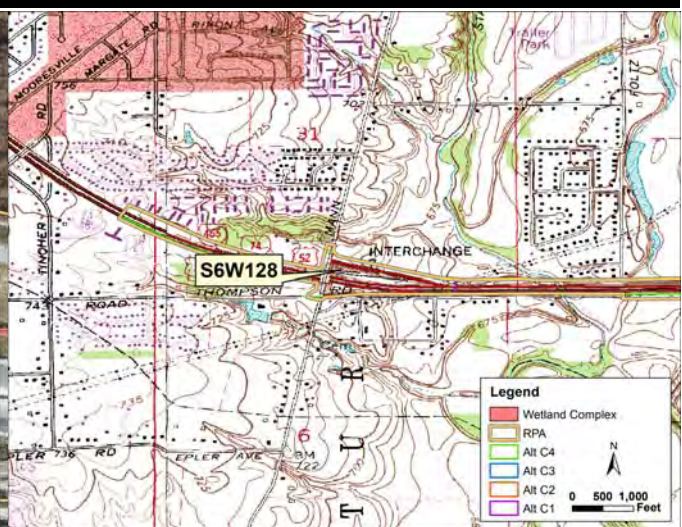
Trees - leaves simple and alternate

- ___ *alder, speckled (*Alnus rugosa*) 9
- ___ river birch (*Betula nigra*) 2
- ___ black, gum (*Nyssa sylvatica*) 5
- ✓ cottonwood, eastern (*Populus deltoides*) 1
- ___ cottonwood, swamp (*Populus heterophylla*) 8
- ___ elm, American (*Ulmus americana*) 3
- ___ hackberry (*Celtis occidentalis*) 3
- ___ ironwood (*Carpinus caroliniana*) 5
- ___ oak, pin or white (*Quercus*) 4
- ___ *oak, Shumard's, swamp chestnut, swamp white
- ___ *pawpaw (*Asimina triloba*) 6
- ___ *sugarberry (*Celtis laevigata*) 7
- ___ sweet gum (*Liquidambar styraciflua*) 4
- ___ sycamore, American (*Platanus occidentalis*) 3
- ___ willow spp. (*Salix*) 1 sp. = 3
- ___ additional sp. = 7

Wetland S6W128



Wetland Location on 2015 Aerial Photograph



Wetland Location on Maywood USGS Quadrangle

Basin: State Ditch	Quadrangle: Maywood
14-digit HUC: 05120201130070	County: Marion
Physiographic Region: New Castle Till Plains	Township: T15N
Ecoregion: Eastern Corn Belt Plains	Range: R3E
Natural Region: Tipton Till Plain	Section: 31
Size of wetland complex (acres): 0.1751	Quarter: SE
USACE Jurisdiction: Yes	Latitude: 39.692909
IDEM Jurisdiction: Yes	Longitude: -86.242036

Polygon ID	Community Type	Cowardin Class	Polygon Area (acres)	Animal Habitat Measure	Botanical Measure	Hydrology Measure	Alternative	Area Impacted (acres)	Percent Polygon Impacted
S6W128A	Wet Meadow	PEM	0.1751	poor	poor	fair	Alt C1	0.00	0.0%
							Alt C2	0.18	100.0%
							Alt C3	0.18	100.0%
							Alt C4	0.18	100.0%
							RPA	0.18	100.0%

Wetland S6W128



Polygon S6W128A

Tier 1: Assessment Overview**1.1 Site Identification:**Wetland Site Name: N/AOwnership (if known): N/AUSGS Topographic Quadrangle: MaywoodUSGS Watershed map 14-Digit HUC: State Ditch

Identify each NWI Polygon within the Wetland Site (Polygon specific data)

NWI Polygon ID Number	Cowardin Classification	Polygon Size (acres)
S6W128A	PEM1	0.1751

1.2 Site VisitTeam Members: R. YeagerAgency: Lochmueller GroupDate assessed: 7/26/2017

Time assessed: _____

Weather conditions: sunny

Note any unusual weather events that may have influenced the current conditions within this wetland system (e.g. recent heavy rains, an unusually dry season, an especially early spring etc.)

1.3 Wetland SizeSize of site under assessment: 0.1751Size of wetland complex: 0.1751**1.4 Site Setting**

Degree of isolation from other wetlands or wetland complexes:

 The site is connected upstream and downstream with other wetlands The site is only connected upstream with other wetlands The site is only connected downstream with other wetlands Other wetlands are nearby (within 0.25 mile) but not connected The wetland site is isolated

General assessment of adjacent land use / land cover in the area within 50 meters of the perimeter of the wetland site (indicate the % abundance of each type):

<u>0</u> Native Vegetation - woodland	<u>100</u> Road / highway / railroad bed / parking lot
<u>0</u> Native Vegetation - old field / scrub	<u>0</u> Industrial
<u>0</u> Agricultural - tilled	<u>0</u> Residential - single family
<u>0</u> Agricultural - pasture	<u>0</u> Commercial or multifamily residential
<u>0</u> Recreation - green space, mowed	

(see table on page one)

Tier 2: Individual Polygon: Preliminary Assessment

(to be completed on-site for each NWI polygon present in the wetland)

2.1 Wetland Geomorphic Setting and Surface Water Flow (check one):

Depressional Slope Floodplain Lacustrine
 Riverine (within the river/stream banks)

2.2 Presence of Standing Water:

Is standing water normally present in the polygon? No

Is standing water is present, is the water greater than 2 meters n depth? No

Is standing water normally present in an adjacent polygon? No

2.3 Apparent Hydroperiod (check one):

Permanently Flooded Artificially Flooded
 Seasonally Flooded
 Saturated (surface water seldom present) Artificailly Drained

2.4 Soil Type

Organic (i.e. peat, etc.) Mineral Both Mineral and Organic Present

2.5 Wetland Community Type for this NWI polygon (see Key to Wetland Communities of Indiana):

Wet Meadow

2.6 Disturbances of Hydrology (check all that apply):

Ditching Culvert
 Tiles Other Human Distrubances to
 Dams the
 Road or Railroad Embankment

2.7 Presence of Invasive Exotics (Score as: S = Scattered, F = Frequent, or C = Common):

Garlic Mustard Glossy Buckthorn
 Phragmities Reed Canary Grass
 Purple Loosestrife Other (list):

2.8 Presence of Special Hydrologic Conditions (i.e. seeps, wet slopes, floating mat):

none

2.9 Presence of Special Community Types:

Bog Fen Wet Sand / Muck Flats or Marl Seeps

2.10 Presence of Known Federal or Indiana Rar, Threatened or Endangered Species:

None observed or known to be presen
 RTES Present (list):

2.11 Wetland Polygon Quality Descriptor (see: Wetland Quality Descriptions and check one):

Good Medium Poor

Tier 3a: Individual Polygon: Rapid Hydrology Indicators

3a.1 Notable Features that influence water quality and hydrology:

Estimated herbaceous plant cover (percentage) in the polygon 100-75 ___ 75-50 ___ 50-25 ___ <25
 Estimated woody plant foliar coverage in the polygon ___ 100-75 ___ 75-50 ___ 50-25 <25
 Amount of dead woody material on the soil surface nil ___ scattered ___ frequent

3a.2 Water Quality Protection Questions:

1. Y N Does the wetland have a significant amount of vegetative (specifically herbaceous and woody plant) density to potentially uptake dissolved nutrients?
2. Y N Managed water (e.g. municipal or road stormwater drainage, agricultural drainage outlet, industrial or municipal wastewater) is not discharged into the wetland polygon?
3. If wetland in question is a depressional wetland answer 3a, in not, answer 3b.
 Y N 3a. Does the wetland have a shape or flow that allows for the settling out of suspended materials before the water reaches the center of the wetland?
 N 3b. Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface body of water down gradient?
4. Y N Does the wetland lack steep slopes, large impervious areas, moderate slopes with row cropping, or areas with severe overgrazing within 100 meters of its border?
5. Y N Are there recreational lakes, fishable or navigable watercourses, or water supply sources down gradient in the local watershed?
6. Y N Is a vegetative buffer area or another wetland polygon (areas where overland flow could be filtered) located upland and adjacent to the wetland polygon? If yes, describe buffer area width and slope.
 width of buffer area (in meter 15 approximate slope (percent 12

3a.3 Flood and Stormwater Storage / Attenuation Questions:

1. If wetland in question is a depressional wetland answer 1a, in not, answer 1b
 Y N 1a. Around the wetland is there a buffer strip of natural vegetation (forested, old field, scrub) that will slow overland flow into the wetland?
 Y N 1b. Is there a significant amount of microtopography or vegetative density within the wetland to reduce the velocity of the water leaving the wetland?
2. Y N Does the wetland lack man-made structure that would speed the flow of water from the wetland (tiles, culverts, ditches)?
3. Y N Is the flood potential high in the local watershed in which the wetland is located (history of flood damages)?
4. Y N Is the wetland located in a watershed where the majority of the upland soils are clayey and impermeable, or is bedrock within two feet of the top of the soil profile?
5. Y N Is the wetland located in a local watershed which has highly modified runoff conditions due to existing development?

Tier 3b Individual Polygon: Rapid Vegetation Description

3b.1 Zonation and Interspersion:

1. How many vegetation zones are evident in this wetland polygon? 1

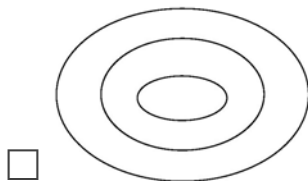
1b. If only one vegetation zone is evident, which best describes the site?

Polygon composed of mosaic of small vegetation patches, hummocks, or tussocks, heterogeneous textures across the polygon.

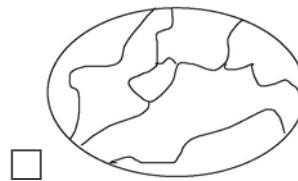
Polygon composed of a single vegetation type with more or less uniform texture across the polygon.

2. If more than one vegetation zone is present in the polygon, which interspersion diagram most closely represents the distribution of these zones?

Type One Interspersion



Type Two Interspersion



3b.2 Dominant Plant Species: Vegetation Zone A

What % of the polygon does this vegetative zone occupy?

- 10 - 25% 25 - 50% 50 - 75% 75 - 90% >90%

Is there notable layering/stratification in this vegetation zone? No

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- | | |
|---------------------------------|----------|
| a. <u><i>Juncus torreyi</i></u> | d. _____ |
| b. _____ | e. _____ |
| c. _____ | f. _____ |

Dominant Shrub Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Dominant Tree Species listed in order of relative abundance.

- | | |
|----------|----------|
| a. _____ | c. _____ |
| b. _____ | d. _____ |

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone B

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.2 Dominant Plant Species: Vegetation Zone C

What % of the polygon does this vegetative zone occupy?

- 10 - 25%
- 25 - 50%
- 50 - 75%
- 75 - 90%
- >90%

Is there notable layering/stratification in this vegetation zone? _____

Dominant Herbaceous Species (i.e., covering more than 10% of the area) listed in order of relative abundance. (Mark with an * any species that forms extensive monocultural patches).

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____

Dominant Shrub Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Dominant Tree Species listed in order of relative abundance.

- a. _____
- b. _____
- c. _____
- d. _____

Tree and shrub canopy: nil separate, seldom touching often touching more or less close

Mature trees (>12" dbh): yes no

Other remarks (include personal comments about what adds to or detracts from the quality of this wetland site).

3b.4 Species richness and indicator species. Check all species observed within the polygon. Important: if multiple species from one genus or family (marked with spp.) are seen, indicate the number of species.

(N = northern Indiana SW = southwestern Indiana numbers = C-coefficients * = species with high conservatism)

Herbs: non-seed plants

- ___ horsetail, scouring rush spp. (Equisetum) 2
- ___ *ferns: marsh shield fern spp. (Dryopteris) 7
- ___ *cinnamon fern (Osmunda cinnamomea) 9
- ___ *royal fern (Osmunda regalis) 8
- ___ sensitive fern (Onoclea sensibilis) 4
- ___ *other: species (if known)
- ___ marsh club moss (Selaginella apoda) 4
- ___ Sphagnum moss spp. (Sphagnum) 10

Herbs: lvs. floating or submergent

- ___ *bladderwort spp. (Utricularia) 10
- ___ coontail (Ceratophyllum demersum) 1
- ___ duckweed spp. (Lemnaceae) 3
- ___ *pondweed spp. (Potamogeton) 8
- ___ curlyleaf pondweed (Potamogeton crispus) 0
- ___ *water lily (Nymphaea tuberosa) 6
- ___ water shield (Brasenia schreberi) 4
- ___ *yellow spatterdock spp. (Nuphar) 6

Herbs: lvs. floating or submergent

- *pitcher plant (Sarracenia purpurea) (10)
- *sundew spp. (Drosera) 10

Herbs: linear-lvs. or +/- leafless monocots

- ___ *beak rush spp (Rhynchospora) 10
 - ___ blueflag iris (Iris virginica) 5
 - ✓ bulrush spp. (Scirpus / Schoenoplectus) 5
 - ___ *bur reed spp. (Sparganium) 9
 - ✓ cat-tail spp. (Typha) 1
 - ___ *cotton grass spp. (Eriophorum) 10
- Grasses (family Gramineae) - indicate types and number of species
- ___ a. *wild rice (Zizania aquatica) 10
 - ___ b. most native perennial grass spp. 4:
cut-grass, manna-grass, Canada bluepoint,
foxtail (Alopecurus); other _____
 - ___ c. introduced grass spp. 0: reed canary
grass (Phalaris, reed (Phragmites),
annual grasses such as annual foxtail
(Setaria) and barnyard grass (Echinochloa)
 - ___ needle sedge spp. (Eleocharis) 1 sp. = 2
___ *additional = 8
 - ___ nutsedge spp. (Cyperus) 2
 - ___ *orchid spp. 10; species (if know _____)
 - ✓ rush spp. (Juncus) 4
 - ___ sedge spp. (Carex) 1 sp. = 3 ___ additional = 7
 - ___ *spiderlily (Hymenocallis occidentalis) 9
 - ___ sweet flag (Acorus calamus) 0
 - ___ *3-way sedge (Dulichium arundinaceum) 10
 - ___ *twig rush (Cladium mariscoides) 10
 - ___ *umbrella sedge (Fuirena squarrosa) 10
 - ___ wild hyacinth (Camassia scilloides) 5
 - ___ *yellow-eyed grass (Xyris torta) 9

Herbs: wide-leaved monocots

- ___ *arrow arum (Peltandra virginica) 6
- ___ arrow-head spp. (Sagittaria) 4
- ___ *green dragon (Arisaema dracontium) 6
- ___ Jack-in-the-pulpit (Arisaema triphyllum) 4
- ___ pickerel weed (Pontederia cordata) 5
- ___ *skunk cabbage (Symplocarpus foetidus) 8
- ___ *water arum (Calla palustris) 10
- ___ water plantain (Alisma plantago-aquatica) 2

Herbs: dicots - lvs. opposite/whorled

- ___ *bedstraw spp. (Galium) 6
- ___ beggar's tick spp. (Bidens) 3
- ___ blue vervain (Verbena hastata) 3
- ___ boneset (Eupatorium perfoliatum) 4
- ___ bugleweed spp. (Lycopus) 5
- ___ clearweed spp. (Pilea) 3
- ___ cup plant (Silphium perfoliatum) 4
- ___ false nettle (Boehmeria cylindrica) 3
- ___ *fen betony (Pedicularis lanceolata) 6
- ___ *gentian spp. (Gentiana Gentianopsis) 8
- ___ giant ragweed (Ambrosia trifida) 0
- ___ Indian hemp (Apocynum cannabinum) 2
- ___ Joe-pye weed spp. (Eupatorium) 5
- ___ *loosestrife spp. (Lysimachia) 6
- ___ meadow beauty (Rhexia virginica) 5
- ___ mint spp. e.g. hedge nettle, mtn. mint, skullcap 5
- ___ moneywort (Lysimachia nummularia) 0
- ___ monkey flower spp. (Mimulus) 4
- ___ nettle (Urtica procera) 1
- ___ purple loosestrife (Lythrum salicaria) 0
- ___ *richweed (Collinsonia canadensis) 8
- ___ St. John's wort spp. (Hypericum/Triandem) 8
- ___ sunflower sp. (Helianthus) 4
- ___ *swamp loosestrife (Decodon verticillatus) 8
- ___ swamp milkweed (Asclepias incarnata) 4
- ___ toothcup spp. (Ammania Rotala) 2
- ___ *turtlehead spp. (Chelone) 8
- ___ virgin's bower (Clematis virginiana) 3
- ___ water purslane (Ludwigia palustris) 3
- ___ winged loosestrife (Lythrum alatum) 5

Herbs (vines): dicots - lvs. alternate or basal and

- ___ American bellflower (Campanula americana) 4
- ___ *asters: bristly aster (Aster puniceus) 7
- ___ flat-topped aster (Aster umbellatus) 8
- ___ other aster spp. (e.g. New England, panicled ast
- ___ *black-eyed Susan (Rudbeckia fulgida) 8
- ___ cardinal flower (Lobelia cardinalis) 4
- ___ cress spp. (Cardamine) 4
- ___ dock spp.: swamp, water, pale (Rumex) 4
- ___ garlic mustard (Alliaria petiolata) 0
- ___ golden ragwort (Senecio aureus) 4

Herbs (vines): dicots - lvs. alternate or basal and simple (continued)

- ___*goldenrod spp. (*Solidago ohioensis*, *S. patula*,
- ___*grass of Parnassus (*Parnassia glauca*) 10
- ___*Indian plantain (*Cacalia plantaginea*) 10
- ___ironweed spp. (*Vernonia*) 4
- ___jewelweed, touch-me-not spp. (*Impatiens*) 3
- ___lizard's tail (*Saururus cernuus*) 4
- ___lobelia spp. (*Lobelia*) 4
- ___*marsh marigold (*Caltha palustris*) 7
- ___*moonseed (*Menispermum canadense*) 6
- ___primrose-willow spp. (*Epilobium Ludwigia*) 3
- ___rose mallow spp. (*Hibiscus*) 4
- ___smartweed spp.: jumpseed, pinkweed, tearthumb, water-pepper, waters smartweed (*Polygonum*)
- ___halbredleaf tearthumb (*Polygonum arifolium*) 10
- ___sneezeweed (*Helenium autumnale*) 3
- ___stinging nettle (*Laportea canadensis*) 2
- ___*swamp saxifrage (*Saxifraga pennsylvanica*) 10
- ___*Virginia bluebells (*Mertensia virginica*) 6
- ___waterhemp (*Amaranthus tuberculatus*) 1
- ___wingstem (*Actinomeris alternifolia*) 3

Herbs: dicots - lvs. basal or alternate and compound or deeply lobed

- ___aven spp.: round, white (*Geum*) 2
- ___*buttercup spp.: cursed b., hooked b., swamp b. (*Ranunculus*) 6
- ___chervil (*Chaerophyllum procumbens*) 3
- ___*cowbane (*Oxypolis rigidior*) 7
- ___*great angelica (*Angelica atropurpurea*) 6
- ___hog peanut / ground nut (*Amphicarpaea* and *Apios*) 5
- ___honestwort (*Cryptotaenia canadensis*) 3
- ___meadow rue spp. (*Thalictrum*) 5
- ___poison ivy (*Rhus radicans*) 1
- ___*queen-of-the prairie (*Filipendula rubra*) 9
- ___senna spp. (*Cassia*) 4
- ___swamp agrimony (*Agrimonia parviflora*) 4
- ___*swamp thistle (*Cirsium muticum*) 8
- ___tall coneflower (*Rudbeckia laciniata*) 3
- ___*water hemlock spp. (*Cicuta*) 7
- ___water parsnips (*Sium suave*) 5

Shrubs - leaves opposite or whorled

- ___bladdernut (*Staphylea trifolia*) 5
- ___buckthorn spp. (*Rhamnus cathartica*, *R. frangula*) 0
- ___buttonbush (*Cephalanthus occidentalis*) 5
- ___dogwood, red-osier (*Cornus stolonifera*) 4
- ___*dogwood, blue-fruited or silky (*Cornus obliqua*)
- ___dogwood, gray (*Cornus racemosa*) 2
- ___elderberry (*Sambucus*) 2

Shrubs - leaves alternate

- ___*cranberry spp. (*Vaccinium*) 10
- ___*dwarf birch (*Betula pumila*) 10
- ___*highbush blueberry (*Vaccinium corymbosum*) 9
- ___*leatherleaf (*Chamaedaphne calyculata*) 10
- ___meadowsweet and Hardhack spp. (*Spiraea*) 4
- ___*ninebark (*Physocarpus opulifolius*) 7
- ___*shrubby cinquefoil (*Potentilla fruticosa*) 9
- ___spice bush (*Lindera benzoin*) 5
- ___*swamp dewberry (*Rubus hispidus*) 6
- ___*swamp holly and winterberry spp. (*Ilex*) 7
- ___swamp rose (*Rosa palustris*) 5

Trees - leaves needle shaped

- ___*tamarack (*Larix laricina*) 10

Trees - leaves compound

- ___*ash, black (*Fraxinus nigra*) 7
- ___ash, green (*Fraxinus pensylvanica*) 3
- ___*ash, pumpkin (*Fraxinus tomentosa*) 8
- ___boxelder (*Acer negundo*) 1
- ___hickory, bitternut (*Carya cordiformis*) 5
- ___hickory, shellbark (*Carya laciniosa*) 8
- ___honey locust (*Gleditsia triacanthos*) 1
- ___*poison sumac (*Rhus vernix*) 10

Trees - leaves simple and opposite

- ___red maple (*Acer rubrum*) 5
- ___silver maple (*Acer saccharinum*) 1

Trees - leaves simple and alternate

- ___*alder, speckled (*Alnus rugosa*) 9
- ___river birch (*Betula nigra*) 2
- ___black, gum (*Nyssa sylvatica*) 5
- ___cottonwood, eastern (*Populus deltoides*) 1
- ___cottonwood, swamp (*Populus heterophylla*) 8
- ___elm, American (*Ulmus americana*) 3
- ___hackberry (*Celtis occidentalis*) 3
- ___ironwood (*Carpinus caroliniana*) 5
- ___oak, pin or white (*Quercus*) 4
- ___*oak, Shumard's, swamp chestnut, swamp white
- ___*pawpaw (*Asimina triloba*) 6
- ___*sugarberry (*Celtis laevigata*) 7
- ___sweet gum (*Liquidambar styraciflua*) 4
- ___sycamore, American (*Platanus occidentalis*) 3
- ___willow spp. (*Salix*) 1 sp. = 3
- ___additional sp. = 7



APPENDIX C

I-69 Wetland Quality Assessment Profile Sheets

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W001
Wetland Site S6W001
Date of site visit: 10/21/15
Total wetland area: 0.3087 acres

Polygon Information	
Polygon ID	S6W001A
Polygon Size (acres)	0.31
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	1
Dead woody material	2
Zonation and Interspersion	1
Stratification	1
Tree canopy	3
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	17
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	2
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	10
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	4
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W002
Wetland Site S6W002
Date of site visit: 05/12/15
Total wetland area: 0.2079 acres

Polygon Information	
Polygon ID	S6W002A S6W002B
Polygon Size (acres)	0.17 0.04
Wetland Community Type	FF SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N N
Special Community Type	N N
Rare-Threatened-Endangered Species	N N
Animal Habitat Measures	
Wetland size and connectivity	1 1
Surrounding land use	3 3
Standing water	1 1
Dead woody material	2 2
Zonation and Interspersion	1 1
Stratification	1 1
Tree canopy	2 1
Mature trees	3 1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	3 1
Conservatism rating	1 2
Total hydrophytic taxa observed	3 1
Number of indicator taxa	1 1
Exotic species rating	3 3
Botanical Measure Score (min = 5, max = 15)	11
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	4 4
Flood and storm water storage (= no. of yes answers)	3 3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W003
Wetland Site S6W003
Date of site visit: 05/12/15
Total wetland area: 0.1408 acres

Polygon Information	
Polygon ID	S6W003A
Polygon Size (acres)	0.14
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W004
 Wetland Site **S6W004**
 Date of site visit: 05/12/15
 Total wetland area: 0.3455 acres

Polygon Information	
Polygon ID	S6W004A
Polygon Size (acres)	0.35
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	3
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	3
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	
Animal Habitat Measure Rating	12 poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	
Botanical Measure Rating	8 poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	
Site/Hydrology Rating	25 fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W005
Wetland Site S6W005
Date of site visit: 05/14/15
Total wetland area: 0.1109 acres

Polygon Information	
Polygon ID	S6W005A
Polygon Size (acres)	0.11
Wetland Community Type	DM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W006
Wetland Site S6W006
Date of site visit: 05/12/15
Total wetland area: 0.012 acres

Polygon Information	
Polygon ID	S6W006A
Polygon Size (acres)	0.01
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	2
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	
Animal Habitat Measure Rating	13 poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	2
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	
Botanical Measure Rating	7 poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	
Site/Hydrology Rating	27 good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W007
 Wetland Site **S6W007**
 Date of site visit: 05/12/15
 Total wetland area: 0.1721 acres

Polygon Information	
Polygon ID	S6W007A
Polygon Size (acres)	0.17
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	3
Zonation and Interspersion	1
Stratification	1
Tree canopy	3
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	17
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	2
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	9
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	4
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W008
Wetland Site S6W008
Date of site visit: 05/12/15
Total wetland area: 7.6507 acres

Polygon Information	
Polygon ID	S6W008A S6W008B S6W008C
Polygon Size (acres)	0.18 7.65 0.31
Wetland Community Type	FF SOW FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N N N
Special Community Type	N N N
Rare-Threatened-Endangered Species	N N N
Animal Habitat Measures	
Wetland size and connectivity	3 3 3
Surrounding land use	3 3 3
Standing water	2 3 2
Dead woody material	2 1 2
Zonation and Interspersion	1 1 1
Stratification	1 1 1
Tree canopy	2 1 2
Mature trees	2 1 1
Animal Habitat Measure Score (min = 8, max = 24)	16 fair 14 fair 15 fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	3 1 1
Conservatism rating	1 1 2
Total hydrophytic taxa observed	3 1 1
Number of indicator taxa	1 1 1
Exotic species rating	2 3 3
Botanical Measure Score (min = 5, max = 15)	10 fair 7 poor 8 poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5 5 5
Flood and storm water storage (= no. of yes answers)	4 4 4
Site/Hydrology Score (min = 11, max = 33)	29 good 29 good 27 good
Site/Hydrology Rating	
	good good good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W009
Wetland Site S6W009
Date of site visit: 05/12/15
Total wetland area: 0.0301 acres

Polygon Information	
Polygon ID	S6W009A
Polygon Size (acres)	0.03
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	3
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	2
Number of indicator taxa	1
Exotic species rating	1
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	4
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W010
Wetland Site S6W010
Date of site visit: 05/13/15
Total wetland area: 0.0107 acres

Polygon Information	
Polygon ID	S6W010A
Polygon Size (acres)	0.01
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W011
 Wetland Site **S6W011**
 Date of site visit: 05/13/15
 Total wetland area: 0.3718 acres

Polygon Information	
Polygon ID	S6W011A
Polygon Size (acres)	0.37
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	1
Botanical Measure Score (min = 5, max = 15)	5
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W012
 Wetland Site **S6W012**
 Date of site visit: 05/14/15
 Total wetland area: 0.1744 acres

Polygon Information	
Polygon ID	S6W012A
Polygon Size (acres)	0.17
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	
Animal Habitat Measure Rating	9 poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	
Botanical Measure Rating	8 poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	
Site/Hydrology Rating	15 poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W013
 Wetland Site **S6W013**
 Date of site visit: 05/14/15
 Total wetland area: 0.3107 acres

Polygon Information	
Polygon ID	S6W013A
Polygon Size (acres)	0.31
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W014
 Wetland Site **S6W014**
 Date of site visit: 05/14/15
 Total wetland area: 0.0367 acres

Polygon Information	
Polygon ID	S6W014A
Polygon Size (acres)	0.04
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W015
Wetland Site S6W015
Date of site visit: 05/14/15
Total wetland area: 0.0632 acres

Polygon Information	
Polygon ID	S6W015A
Polygon Size (acres)	0.06
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W016
 Wetland Site **S6W016**
 Date of site visit: 05/14/15
 Total wetland area: 0.1396 acres

Polygon Information	
Polygon ID	S6W016A
Polygon Size (acres)	0.14
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W017
 Wetland Site **S6W017**
 Date of site visit: 05/14/15
 Total wetland area: 0.2608 acres

Polygon Information	
Polygon ID	S6W017A
Polygon Size (acres)	0.26
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W018
Wetland Site S6W018
Date of site visit: 05/14/15
Total wetland area: 0.4289 acres

Polygon Information	
Polygon ID	S6W018A
Polygon Size (acres)	0.43
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	3
Zonation and Interspersion	1
Stratification	1
Tree canopy	3
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	fair
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	10
Botanical Measure Rating	
Hydrology Measures	fair
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W019
Wetland Site S6W019
Date of site visit: 05/14/15
Total wetland area: 1.4814 acres

Polygon Information	
Polygon ID	S6W019A
Polygon Size (acres)	1.48
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	3
Zonation and Interspersion	2
Stratification	1
Tree canopy	2
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	17
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	9
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W020
Wetland Site S6W020
Date of site visit: 05/15/15
Total wetland area: 0.093 acres

Polygon Information	
Polygon ID	S6W020A
Polygon Size (acres)	0.09
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W021
Wetland Site S6W021
Date of site visit: 05/14/15
Total wetland area: 0.2086 acres

Polygon Information	
Polygon ID	S6W021A
Polygon Size (acres)	0.21
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	3
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	9
Botanical Measure Rating	
Hydrology Measures	fair
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W022
Wetland Site S6W022
Date of site visit: 05/14/15
Total wetland area: 0.0368 acres

Polygon Information	
Polygon ID	S6W022A
Polygon Size (acres)	0.04
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	8
Animal Habitat Measure Rating	
poor	
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
poor	
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	
poor	

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W023
Wetland Site S6W023
Date of site visit:
Total wetland area: 0.501 acres

Polygon Information	
Polygon ID	S6W023A
Polygon Size (acres)	0.50
Wetland Community Type	pond
Red Flag (Special) Indicators	
Special Hydrologic Conditions	
Special Community Type	
Rare-Threatened-Endangered Species	
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	
Standing water	
Dead woody material	
Zonation and Interspersion	
Stratification	
Tree canopy	
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	
Animal Habitat Measure Rating	#N/A
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	FF
Total hydrophytic taxa observed	1
Number of indicator taxa	
Exotic species rating	
Botanical Measure Score (min = 5, max = 15)	
Botanical Measure Rating	#N/A
Hydrology Measures	
Water quality protection (= no. of yes answers)	
Flood and storm water storage (= no. of yes answers)	
Site/Hydrology Score (min = 11, max = 33)	
Site/Hydrology Rating	

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference #: S6W024
 Wetland Site: S6W024
 Date of site visit: 10/21/15
 Total wetland area: 0.0228 acres

Polygon Information	
Polygon ID	S6W024A
Polygon Size (acres)	0.02
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W025
Wetland Site S6W025
Date of site visit: 05/15/15
Total wetland area: 0.4435 acres

Polygon Information	
Polygon ID	S6W025A S6W025B
Polygon Size (acres)	0.06 0.38
Wetland Community Type	SC SOW
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N N
Special Community Type	N N
Rare-Threatened-Endangered Species	N N
Animal Habitat Measures	
Wetland size and connectivity	3 3
Surrounding land use	2 2
Standing water	2 3
Dead woody material	1 1
Zonation and Interspersion	1 1
Stratification	1 1
Tree canopy	3 1
Mature trees	1 1
Animal Habitat Measure Score (min = 8, max = 24)	14 13
Animal Habitat Measure Rating	fair poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1 1
Conservatism rating	1 1
Total hydrophytic taxa observed	1 3
Number of indicator taxa	1 1
Exotic species rating	1 3
Botanical Measure Score (min = 5, max = 15)	5 9
Botanical Measure Rating	poor fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	4 4
Flood and storm water storage (= no. of yes answers)	2 2
Site/Hydrology Score (min = 11, max = 33)	23 23
Site/Hydrology Rating	fair fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W026
Wetland Site S6W026
Date of site visit: 05/15/15
Total wetland area: 1.9653 acres

Polygon Information	
Polygon ID	S6W026A
Polygon Size (acres)	1.97
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	3
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	10
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W028
Wetland Site S6W028
Date of site visit: 10/21/15
Total wetland area: 0.0411 acres

Polygon Information	
Polygon ID	S6W028A
Polygon Size (acres)	0.04
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W029
Wetland Site S6W029
Date of site visit: 10/21/15
Total wetland area: 0.0607 acres

Polygon Information	
Polygon ID	S6W029A
Polygon Size (acres)	0.06
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W030
Wetland Site S6W030
Date of site visit: 05/15/15
Total wetland area: 0.5678 acres

Polygon Information	
Polygon ID	S6W030A S6W030B
Polygon Size (acres)	0.03 0.54
Wetland Community Type	SHM SOW
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N N
Special Community Type	N N
Rare-Threatened-Endangered Species	N N
Animal Habitat Measures	
Wetland size and connectivity	1 1
Surrounding land use	2 2
Standing water	2 3
Dead woody material	1 1
Zonation and Interspersion	1 1
Stratification	1 1
Tree canopy	1 1
Mature trees	1 1
Animal Habitat Measure Score (min = 8, max = 24)	10 11
Animal Habitat Measure Rating	poor poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1 1
Conservatism rating	1 2
Total hydrophytic taxa observed	1 1
Number of indicator taxa	1 1
Exotic species rating	3 3
Botanical Measure Score (min = 5, max = 15)	7 8
Botanical Measure Rating	poor poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3 3
Flood and storm water storage (= no. of yes answers)	3 3
Site/Hydrology Score (min = 11, max = 33)	23 23
Site/Hydrology Rating	fair fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W031
Wetland Site S6W031
Date of site visit: 10/28/15
Total wetland area: 0.0058 acres

Polygon Information	
Polygon ID	S6W031A
Polygon Size (acres)	0.01
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W032
Wetland Site S6W032
Date of site visit: 10/28/15
Total wetland area: 0.0019 acres

Polygon Information	
Polygon ID	S6W032A
Polygon Size (acres)	0.00
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W034
Wetland Site S6W034
Date of site visit: 10/19/15
Total wetland area: 0.1539 acres

Polygon Information	
Polygon ID	S6W034A
Polygon Size (acres)	0.15
Wetland Community Type	WP
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	4
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W035
Wetland Site S6W035
Date of site visit: 10/19/15
Total wetland area: 0.0216 acres

Polygon Information	
Polygon ID	S6W035A
Polygon Size (acres)	0.02
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	2
Zonation and Interspersion	1
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	fair
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	4
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W036
Wetland Site S6W036
Date of site visit: 10/01/15
Total wetland area: 0.0662 acres

Polygon Information	
Polygon ID	S6W036A
Polygon Size (acres)	0.07
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	2
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	13
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W037
 Wetland Site **S6W037**
 Date of site visit: 10/01/15
 Total wetland area: 0.0603 acres

Polygon Information	
Polygon ID	S6W037A
Polygon Size (acres)	0.06
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W038
Wetland Site S6W038
Date of site visit: 10/01/15
Total wetland area: 0.0385 acres

Polygon Information	
Polygon ID	S6W038A
Polygon Size (acres)	0.04
Wetland Community Type	WP
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	2
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	12
Animal Habitat Measure Rating	
poor	
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
poor	
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	
fair	

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W039
Wetland Site S6W039
Date of site visit: 10/01/15
Total wetland area: 0.611 acres

Polygon Information	
Polygon ID	S6W039A
Polygon Size (acres)	0.61
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	2
Dead woody material	3
Zonation and Interspersion	1
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W040
Wetland Site S6W040
Date of site visit: 10/01/15
Total wetland area: 0.0396 acres

Polygon Information	
Polygon ID	S6W040A
Polygon Size (acres)	0.04
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	
Animal Habitat Measure Rating	12 poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	
Botanical Measure Rating	8 poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	
Site/Hydrology Rating	23 fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W041
Wetland Site S6W041
Date of site visit: 10/01/15
Total wetland area: 0.1449 acres

Polygon Information	
Polygon ID	S6W041A
Polygon Size (acres)	0.14
Wetland Community Type	SM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	
poor	
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
poor	
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	
fair	

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W043
Wetland Site S6W043
Date of site visit: 10/06/15
Total wetland area: 0.1908 acres

Polygon Information	
Polygon ID	S6W043A
Polygon Size (acres)	0.19
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	13
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W044
Wetland Site S6W044
Date of site visit: 10/06/15
Total wetland area: 0.1969 acres

Polygon Information	
Polygon ID	S6W044A
Polygon Size (acres)	0.20
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W045
Wetland Site S6W045
Date of site visit: 10/01/15
Total wetland area: 2.3219 acres

Polygon Information	
Polygon ID	S6W045A
Polygon Size (acres)	2.32
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	2
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	13
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W046
Wetland Site S6W046
Date of site visit: 10/01/15
Total wetland area: 0.1031 acres

Polygon Information	
Polygon ID	S6W046A
Polygon Size (acres)	0.10
Wetland Community Type	WP
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	3
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	1
Botanical Measure Score (min = 5, max = 15)	5
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W047
Wetland Site S6W047
Date of site visit: 11/01/15
Total wetland area: 0.0277 acres

Polygon Information	
Polygon ID	S6W047A
Polygon Size (acres)	0.03
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W048
Wetland Site S6W048
Date of site visit: 10/06/15
Total wetland area: 1.0454 acres

Polygon Information		S6W048A	S6W048B	S6W048C	S6W048D
Polygon ID		0.11	0.75	0.06	0.13
Polygon Size (acres)		SFB	SF	SOW	SFB
Wetland Community Type					
Red Flag (Special) Indicators					
Special Hydrologic Conditions		N	N	N	N
Special Community Type		N	N	N	N
Rare-Threatened-Endangered Species		N	N	N	N
Animal Habitat Measures					
Wetland size and connectivity		2	2	2	2
Surrounding land use		2	2	2	2
Standing water		2	2	2	1
Dead woody material		1	2	1	1
Zonation and Interspersion		1	2	1	1
Stratification		1	3	1	1
Tree canopy		1	2	1	1
Mature trees		1	2	1	1
Animal Habitat Measure Score (min = 8, max = 24)		11	17	11	10
Animal Habitat Measure Rating		poor	fair	poor	poor
Botanical Measures (all except exotics dependent upon community type)					
Number of dominant plant taxa observed		1	1	1	1
Conservatism rating		1	1	2	1
Total hydrophytic taxa observed		1	1	1	2
Number of indicator taxa		1	1	1	1
Exotic species rating		3	2	3	2
Botanical Measure Score (min = 5, max = 15)		7	6	8	7
Botanical Measure Rating		poor	poor	poor	poor
Hydrology Measures					
Water quality protection (= no. of yes answers)		5	3	3	1
Flood and storm water storage (= no. of yes answers)		2	3	2	1
Site/Hydrology Score (min = 11, max = 33)		25	23	21	15
Site/Hydrology Rating		fair	fair	fair	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W049
Wetland Site S6W049
Date of site visit: 08/28/17
Total wetland area: 0.8788 acres

Polygon Information	
Polygon ID	S6W049A
Polygon Size (acres)	0.88
Wetland Community Type	pond
Red Flag (Special) Indicators	
Special Hydrologic Conditions	
Special Community Type	
Rare-Threatened-Endangered Species	
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	
Standing water	
Dead woody material	
Zonation and Interspersion	
Stratification	
Tree canopy	
Mature trees	
Animal Habitat Measure Score (min = 8, max = 24)	#N/A
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	FF
Total hydrophytic taxa observed	1
Number of indicator taxa	
Exotic species rating	
Botanical Measure Score (min = 5, max = 15)	2
Hydrology Measures	
Water quality protection (= no. of yes answers)	
Flood and storm water storage (= no. of yes answers)	
Site/Hydrology Score (min = 11, max = 33)	#N/A
Site/Hydrology Rating	

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W053
Wetland Site S6W053
Date of site visit: 10/06/15
Total wetland area: 0.3963 acres

Polygon Information	
Polygon ID	S6W053A
Polygon Size (acres)	0.40
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	2
Zonation and Interspersion	2
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	19
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	good
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W054
Wetland Site S6W054
Date of site visit: 10/06/15
Total wetland area: 0.4852 acres

Polygon Information	
Polygon ID	S6W054A
Polygon Size (acres)	0.49
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	2
Stratification	3
Tree canopy	2
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	19
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	good
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W055
Wetland Site S6W055
Date of site visit: 10/06/15
Total wetland area: 0.2061 acres

Polygon Information	
Polygon ID	S6W055A
Polygon Size (acres)	0.21
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	3
Tree canopy	3
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	18
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	9
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W056
Wetland Site S6W056
Date of site visit: 10/06/15
Total wetland area: 0.1636 acres

Polygon Information	
Polygon ID	S6W056A
Polygon Size (acres)	0.16
Wetland Community Type	SF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	3
Stratification	1
Tree canopy	2
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	17
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W057
Wetland Site S6W057
Date of site visit: 10/08/15
Total wetland area: 1.3618 acres

Polygon Information	S6W057A	S6W057B	S6W057C	S6W057D
Polygon ID	0.19	0.22	0.71	0.24
Polygon Size (acres)	WP	WP	WM	WP
Wetland Community Type				
Red Flag (Special) Indicators				
Special Hydrologic Conditions	N	N	N	N
Special Community Type	N	N	N	N
Rare-Threatened-Endangered Species	N	N	N	N
Animal Habitat Measures				
Wetland size and connectivity	2	2	2	2
Surrounding land use	2	2	2	2
Standing water	2	2	2	2
Dead woody material	2	1	1	1
Zonation and Interspersion	1	1	3	3
Stratification	1	1	3	3
Tree canopy	2	1	1	1
Mature trees	1	1	1	1
Animal Habitat Measure Score (min = 8, max = 24)	13	11	15	15
Animal Habitat Measure Rating	poor	poor	fair	fair
Botanical Measures (all except exotics dependent upon community type)				
Number of dominant plant taxa observed	1	1	1	1
Conservatism rating	1	1	1	1
Total hydrophytic taxa observed	1	1	1	1
Number of indicator taxa	1	1	1	1
Exotic species rating	3	2	2	2
Botanical Measure Score (min = 5, max = 15)	7	6	6	6
Botanical Measure Rating	poor	poor	poor	poor
Hydrology Measures				
Water quality protection (= no. of yes answers)	4	4	4	4
Flood and storm water storage (= no. of yes answers)	3	3	3	3
Site/Hydrology Score (min = 11, max = 33)	25	25	25	25
Site/Hydrology Rating	fair	fair	fair	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W058
Wetland Site S6W058
Date of site visit: 04/11/17
Total wetland area: 3.2703 acres

Polygon Information	
Polygon ID	S6W058A S6W058B
Polygon Size (acres)	3.06 0.21
Wetland Community Type	SOW SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N N
Special Community Type	N N
Rare-Threatened-Endangered Species	N N
Animal Habitat Measures	
Wetland size and connectivity	2 2
Surrounding land use	2 2
Standing water	3 2
Dead woody material	1 1
Zonation and Interspersion	1 1
Stratification	1 1
Tree canopy	1 1
Mature trees	1 1
Animal Habitat Measure Score (min = 8, max = 24)	12 11
Animal Habitat Measure Rating	poor poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1 1
Conservatism rating	1 1
Total hydrophytic taxa observed	1 1
Number of indicator taxa	1 1
Exotic species rating	3 1
Botanical Measure Score (min = 5, max = 15)	7 5
Botanical Measure Rating	poor poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	2 3
Flood and storm water storage (= no. of yes answers)	2 2
Site/Hydrology Score (min = 11, max = 33)	19 21
Site/Hydrology Rating	fair fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W059
Wetland Site S6W059
Date of site visit: 10/08/15
Total wetland area: 12.2436 acres

Polygon Information	
Polygon ID	S6W059A S6W059B
Polygon Size (acres)	12.24 0.34
Wetland Community Type	WM FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N N
Special Community Type	N N
Rare-Threatened-Endangered Species	N N
Animal Habitat Measures	
Wetland size and connectivity	3 3
Surrounding land use	2 2
Standing water	2 2
Dead woody material	2 2
Zonation and Interspersion	1 1
Stratification	1 3
Tree canopy	1 2
Mature trees	1 2
Animal Habitat Measure Score (min = 8, max = 24)	13 17
Animal Habitat Measure Rating	poor fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1 1
Conservatism rating	1 1
Total hydrophytic taxa observed	1 1
Number of indicator taxa	1 1
Exotic species rating	3 3
Botanical Measure Score (min = 5, max = 15)	7 7
Botanical Measure Rating	poor poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3 3
Flood and storm water storage (= no. of yes answers)	2 2
Site/Hydrology Score (min = 11, max = 33)	21 21
Site/Hydrology Rating	fair fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W060
Wetland Site S6W060
Date of site visit: 10/12/15
Total wetland area: 0.1194 acres

Polygon Information	
Polygon ID	S6W060A
Polygon Size (acres)	0.12
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W061
Wetland Site S6W061
Date of site visit: 10/12/15
Total wetland area: 0.327 acres

Polygon Information	
Polygon ID	S6W061A
Polygon Size (acres)	0.33
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	2
Stratification	3
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	13
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W062
Wetland Site S6W062
Date of site visit: 10/12/15
Total wetland area: 0.0276 acres

Polygon Information	
Polygon ID	S6W062A
Polygon Size (acres)	0.03
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	2
Zonation and Interspersion	1
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	4
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W063
Wetland Site S6W063
Date of site visit: 10/12/15
Total wetland area: 0.0545 acres

Polygon Information	
Polygon ID	S6W063A
Polygon Size (acres)	0.05
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	1
Dead woody material	2
Zonation and Interspersion	3
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W064
Wetland Site S6W064
Date of site visit: 10/08/15
Total wetland area: 0.0201 acres

Polygon Information	
Polygon ID	S6W064A
Polygon Size (acres)	0.02
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	1
Dead woody material	2
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	19
Animal Habitat Measure Rating	good
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W065
Wetland Site S6W065
Date of site visit: 10/08/15
Total wetland area: 0.0084 acres

Polygon Information	
Polygon ID	S6W065A
Polygon Size (acres)	0.01
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	1
Dead woody material	2
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	18
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W066
Wetland Site S6W066
Date of site visit: 10/08/15
Total wetland area: 0.4067 acres

Polygon Information	
Polygon ID	S6W066A
Polygon Size (acres)	0.41
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	3
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W067
Wetland Site S6W067
Date of site visit: 10/08/15
Total wetland area: 0.0519 acres

Polygon Information	
Polygon ID	S6W067A
Polygon Size (acres)	0.05
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	2
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	20
Animal Habitat Measure Rating	good
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W068
Wetland Site S6W068
Date of site visit: 10/08/15
Total wetland area: 0.3479 acres

Polygon Information	
Polygon ID	S6W068A
Polygon Size (acres)	0.35
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	2
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	17
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W069
Wetland Site S6W069
Date of site visit: 10/08/15
Total wetland area: 0.329 acres

Polygon Information	
Polygon ID	S6W069A
Polygon Size (acres)	0.33
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	2
Zonation and Interspersion	1
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	fair
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W070
Wetland Site S6W070
Date of site visit: 09/24/15
Total wetland area: 0.1047 acres

Polygon Information	
Polygon ID	S6W070A
Polygon Size (acres)	0.10
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	3
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W071
Wetland Site S6W071
Date of site visit: 09/24/15
Total wetland area: 0.1119 acres

Polygon Information	
Polygon ID	S6W071A
Polygon Size (acres)	0.11
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	2
Dead woody material	2
Zonation and Interspersion	3
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W073
Wetland Site S6W073
Date of site visit: 09/21/15
Total wetland area: 0.138 acres

Polygon Information	
Polygon ID	S6W073A
Polygon Size (acres)	0.14
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	1
Dead woody material	2
Zonation and Interspersion	2
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W074
Wetland Site S6W074
Date of site visit: 09/21/15
Total wetland area: 0.5888 acres

Polygon Information	
Polygon ID	S6W074A
Polygon Size (acres)	0.59
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	2
Dead woody material	2
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W075
Wetland Site S6W075
Date of site visit: 09/21/15
Total wetland area: 0.009 acres

Polygon Information	
Polygon ID	S6W075A
Polygon Size (acres)	0.01
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	5
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	27
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W076
Wetland Site S6W076
Date of site visit: 09/03/15
Total wetland area: 0.0247 acres

Polygon Information	
Polygon ID	S6W076A
Polygon Size (acres)	0.02
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W077
 Wetland Site **S6W077**
 Date of site visit: 08/31/15
 Total wetland area: 0.0305 acres

Polygon Information	
Polygon ID	S6W077A
Polygon Size (acres)	0.03
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	3
Tree canopy	2
Mature trees	2
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	fair
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W078
Wetland Site S6W078
Date of site visit: 09/03/15
Total wetland area: 0.1482 acres

Polygon Information	
Polygon ID	S6W078A
Polygon Size (acres)	0.15
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	13
Animal Habitat Measure Rating	
poor	
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
poor	
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	
fair	

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W079
Wetland Site S6W079
Date of site visit: 09/03/15
Total wetland area: 0.2507 acres

Polygon Information	
Polygon ID	S6W079A
Polygon Size (acres)	0.25
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	1
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W080
Wetland Site S6W080
Date of site visit: 08/31/15
Total wetland area: 0.1984 acres

Polygon Information	
Polygon ID	S6W080A
Polygon Size (acres)	0.20
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	2
Zonation and Interspersion	1
Stratification	3
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W081
Wetland Site S6W081
Date of site visit: 09/08/15
Total wetland area: 0.0272 acres

Polygon Information	
Polygon ID	S6W081A
Polygon Size (acres)	0.03
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W082
Wetland Site S6W082
Date of site visit: 10/21/15
Total wetland area: 0.024 acres

Polygon Information	
Polygon ID	S6W082A
Polygon Size (acres)	0.02
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W085
Wetland Site S6W085
Date of site visit: 10/20/15
Total wetland area: 0.0538 acres

Polygon Information	
Polygon ID	S6W085A
Polygon Size (acres)	0.05
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W086
Wetland Site S6W086
Date of site visit: 07/09/15
Total wetland area: 0.3676 acres

Polygon Information	
Polygon ID	S6W086A
Polygon Size (acres)	0.37
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	8
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference # S6W087
 Wetland Site S6W087
 Date of site visit: 07/09/15
 Total wetland area: 0.0912 acres

Polygon Information	
Polygon ID	S6W087A
Polygon Size (acres)	0.09
Wetland Community Type	SOW
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	11
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	3
Conservatism rating	1
Total hydrophytic taxa observed	3
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	11
Botanical Measure Rating	fair
Hydrology Measures	
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W089
Wetland Site S6W089
Date of site visit: 07/09/15
Total wetland area: 0.839 acres

Polygon Information		S6W089A	S6W089B	S6W089C
Polygon ID		0.17	0.07	0.60
Polygon Size (acres)		WM	SC	SOW
Wetland Community Type				
Red Flag (Special) Indicators				
Special Hydrologic Conditions		N	N	N
Special Community Type		N	N	N
Rare-Threatened-Endangered Species		N	N	N
Animal Habitat Measures				
Wetland size and connectivity		3	3	3
Surrounding land use		2	2	2
Standing water		2	2	3
Dead woody material		1	1	1
Zonation and Interspersion		3	3	1
Stratification		1	1	1
Tree canopy		1	1	1
Mature trees		1	1	1
Animal Habitat Measure Score (min = 8, max = 24)		14	14	13
Animal Habitat Measure Rating		fair	fair	poor
Botanical Measures (all except exotics dependent upon community type)				
Number of dominant plant taxa observed		2	1	1
Conservatism rating		1	1	1
Total hydrophytic taxa observed		1	1	1
Number of indicator taxa		1	1	1
Exotic species rating		2	2	3
Botanical Measure Score (min = 5, max = 15)		7	6	7
Botanical Measure Rating		poor	poor	poor
Hydrology Measures				
Water quality protection (= no. of yes answers)		3	3	2
Flood and storm water storage (= no. of yes answers)		2	2	2
Site/Hydrology Score (min = 11, max = 33)		21	21	19
Site/Hydrology Rating		fair	fair	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W091
Wetland Site S6W091
Date of site visit: 04/21/16
Total wetland area: 0.0221 acres

Polygon Information	
Polygon ID	S6W091A
Polygon Size (acres)	0.02
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	2
Zonation and Interspersion	3
Stratification	1
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W092
Wetland Site S6W092
Date of site visit: 11/20/15
Total wetland area: 0.2421 acres

Polygon Information	
Polygon ID	S6W092A
Polygon Size (acres)	0.24
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	2
Zonation and Interspersion	3
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	16
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	25
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W093
Wetland Site S6W093
Date of site visit: 11/20/15
Total wetland area: 1.4581 acres

Polygon Information	
Polygon ID	S6W093A
Polygon Size (acres)	1.46
Wetland Community Type	SHM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	2
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	14
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W094
Wetland Site S6W094
Date of site visit: 05/28/15
Total wetland area: 0.0365 acres

Polygon Information	
Polygon ID	S6W094A
Polygon Size (acres)	0.04
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	3
Standing water	2
Dead woody material	1
Zonation and Interspersion	3
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	4
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W096
Wetland Site S6W096
Date of site visit: 05/28/15
Total wetland area: 2.4632 acres

Polygon Information	
Polygon ID	S6W096A
Polygon Size (acres)	2.46
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	3
Standing water	2
Dead woody material	2
Zonation and Interspersion	1
Stratification	2
Tree canopy	3
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	16
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	2
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	1
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	6
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	29
Site/Hydrology Rating	good

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W098
Wetland Site S6W098
Date of site visit: 04/19/15
Total wetland area: 0.1151 acres

Polygon Information	
Polygon ID	S6W098A
Polygon Size (acres)	0.12
Wetland Community Type	FF
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	3
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	3
Tree canopy	2
Mature trees	3
Animal Habitat Measure Score (min = 8, max = 24)	16
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	23
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W103
Wetland Site S6W103
Date of site visit: 09/08/15
Total wetland area: 0.0403 acres

Polygon Information	
Polygon ID	S6W103A
Polygon Size (acres)	0.04
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W106
Wetland Site S6W106
Date of site visit: 11/20/15
Total wetland area: 0.5047 acres

Polygon Information	
Polygon ID	S6W106A
Polygon Size (acres)	0.50
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	1
Dead woody material	2
Zonation and Interspersion	3
Stratification	3
Tree canopy	2
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	15
Animal Habitat Measure Rating	fair
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	1
Site/Hydrology Score (min = 11, max = 33)	15
Site/Hydrology Rating	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
 Data reference #: S6W107
 Wetland Site: **S6W107**
 Date of site visit: 04/19/15
 Total wetland area: 0.0618 acres

Polygon Information	
Polygon ID	S6W107A
Polygon Size (acres)	0.06
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	10
Animal Habitat Measure Rating	poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	2
Botanical Measure Score (min = 5, max = 15)	6
Botanical Measure Rating	poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W113
Wetland Site S6W113
Date of site visit: 01/21/16
Total wetland area: 0.3874 acres

Polygon Information	
Polygon ID	S6W113A
Polygon Size (acres)	0.39
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	2
Surrounding land use	2
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	3
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	
Animal Habitat Measure Rating	13 poor
Botanical Measures (all except exotics dependent upon community type)	
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	
Botanical Measure Rating	8 poor
Hydrology Measures	
Water quality protection (= no. of yes answers)	3
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	
Site/Hydrology Rating	23 fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W116
Wetland Site S6W116
Date of site visit: 06/05/16
Total wetland area: 0.0396 acres

Polygon Information	
Polygon ID	S6W116A
Polygon Size (acres)	0.04
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	2
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	17
Site/Hydrology Rating	
	poor

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W126
Wetland Site S6W126
Date of site visit: 08/29/17
Total wetland area: 0.1186 acres

Polygon Information	
Polygon ID	S6W126A
Polygon Size (acres)	0.12
Wetland Community Type	SFB
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	2
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	9
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	1
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W127
Wetland Site S6W127
Date of site visit: 08/29/17
Total wetland area: 0.2069 acres

Polygon Information	
Polygon ID	S6W127A
Polygon Size (acres)	0.21
Wetland Community Type	SC
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	8
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	1
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	7
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	3
Site/Hydrology Score (min = 11, max = 33)	21
Site/Hydrology Rating	
	fair

I-69 Wetland Quality Assessment Profile

Date Report Generated: 9/5/2017
Data reference # S6W128
Wetland Site S6W128
Date of site visit: 08/29/17
Total wetland area: 0.1751 acres

Polygon Information	
Polygon ID	S6W128A
Polygon Size (acres)	0.18
Wetland Community Type	WM
Red Flag (Special) Indicators	
Special Hydrologic Conditions	N
Special Community Type	N
Rare-Threatened-Endangered Species	N
Animal Habitat Measures	
Wetland size and connectivity	1
Surrounding land use	1
Standing water	1
Dead woody material	1
Zonation and Interspersion	1
Stratification	1
Tree canopy	1
Mature trees	1
Animal Habitat Measure Score (min = 8, max = 24)	8
Animal Habitat Measure Rating	
Botanical Measures (all except exotics dependent upon community type)	poor
Number of dominant plant taxa observed	1
Conservatism rating	2
Total hydrophytic taxa observed	1
Number of indicator taxa	1
Exotic species rating	3
Botanical Measure Score (min = 5, max = 15)	8
Botanical Measure Rating	
Hydrology Measures	poor
Water quality protection (= no. of yes answers)	2
Flood and storm water storage (= no. of yes answers)	2
Site/Hydrology Score (min = 11, max = 33)	19
Site/Hydrology Rating	
	fair



APPENDIX D

Wetland Matrix for I-69 Alternatives: Section 6 Right of Way Limits

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID		DATA	Alternative C1			Alternative C2			Alternative C3			Alternative C4			RPA			
S6W001	USACE Jurisdiction: Yes	Cowardin et al. Classification															PEM	
		Indiana Community Type																SFB
		Size (acres)																0.31
		Impact (acres)																0.01
		Animal Habitat																fair
		Botanical																fair
		Hydrology																fair
		Red Flags																N
S6W002	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO	PEM		PFO	PEM					PFO	PEM		PFO	PEM		
		Indiana Community Type	FF	SFB		FF	SFB					FF	SFB		FF	SFB		
		Size (acres)	0.17	0.04		0.17	0.04					0.17	0.04		0.17	0.04		
		Impact (acres)	0.17	0.03		0.17	0.03					0.09	0.00		0.09	0.00		
		Animal Habitat	fair	poor		fair	poor					fair	poor		fair	poor		
		Botanical	fair	poor		fair	poor					fair	poor		fair	poor		
		Hydrology	fair	fair		fair	fair					fair	fair		fair	fair		
		Red Flags	N	N		N	N					N	N		N	N		
S6W003	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM			PEM					PEM			PEM				
		Indiana Community Type	SFB			SFB					SFB			SFB				
		Size (acres)	0.14			0.14					0.14			0.14				
		Impact (acres)	0.07			0.07					0.01			0.01				
		Animal Habitat	poor			poor					poor			poor				
		Botanical	poor			poor					poor			poor				
		Hydrology	fair			fair					fair			fair				
		Red Flags	N			N					N			N				
S6W004	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM			PEM				PEM			PEM					
		Indiana Community Type	SFB			SFB				SFB			SFB					
		Size (acres)	0.35			0.35				0.35			0.35					
		Impact (acres)	0.34			0.34				0.03			0.08					
		Animal Habitat	poor			poor				poor			poor					
		Botanical	poor			poor				poor			poor					
		Hydrology	fair			fair				fair			fair					
		Red Flags	N			N				N			N					
S6W005	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM			PEM				PEM			PEM					
		Indiana Community Type	DM			DM				DM			DM					
		Size (acres)	0.11			0.11				0.11			0.11					
		Impact (acres)	0.06			0.06				0.02			0.06					
		Animal Habitat	poor			poor				poor			poor					
		Botanical	poor			poor				poor			poor					
		Hydrology	poor			poor				poor			poor					
		Red Flags	N			N				N			N					
S6W007	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO			PFO				PFO			PFO					
		Indiana Community Type	FF			FF				FF			FF					
		Size (acres)	0.17			0.17				0.17			0.17					
		Impact (acres)	0.06			0.06				0.17			0.17					
		Animal Habitat	fair			fair				fair			fair					
		Botanical	fair			fair				fair			fair					
		Hydrology	fair			fair				fair			fair					
		Red Flags	N			N				N			N					
S6W008	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO	PUB	PFO	PFO	PUB	PFO										
		Indiana Community Type	FF	SOW	FF	FF	SOW	FF										
		Size (acres)	0.18	7.65	0.31	0.18	7.65	0.31										
		Impact (acres)	0.00	0.01	0.00	0.00	0.01	0.00										
		Animal Habitat	fair	fair	fair	fair	fair	fair										
		Botanical	fair	poor	poor	fair	poor	poor										
		Hydrology	good	good	good	good	good	good										
		Red Flags	N	N	N	N	N	N										

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID	DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA						
S6W009	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM					PEM										PEM						
		Indiana Community Type	SFB					SFB										SFB						
		Size (acres)	0.03					0.03										0.03						
		Impact (acres)	0.03					0.03										0.02						
		Animal Habitat	poor					poor										poor						
		Botanical	poor					poor										poor						
		Hydrology	good					good										good						
		Red Flags	N					N										N						
S6W020	USACE Jurisdiction: No	Cowardin et al. Classification						PEM																
		Indiana Community Type						SHM																
		Size (acres)						0.09																
		Impact (acres)						0.00																
		Animal Habitat						poor																
		Botanical						poor																
		Hydrology						poor																
		Red Flags						N																
S6W021	USACE Jurisdiction: Yes	Cowardin et al. Classification										PSS					PSS						PSS	
		Indiana Community Type											SC				SC						SC	
		Size (acres)											0.21				0.21						0.21	
		Impact (acres)											0.09				0.09						0.10	
		Animal Habitat											poor				poor						poor	
		Botanical											fair				fair						fair	
		Hydrology											fair				fair						fair	
		Red Flags											N				N						N	
S6W025	USACE Jurisdiction: Yes	Cowardin et al. Classification	PSS	PUB				PSS	PUB			PSS	PUB			PSS	PUB							
		Indiana Community Type	SC	SOW					SC	SOW			SC	SOW			SC	SOW						
		Size (acres)	0.06	0.38					0.06	0.38			0.06	0.38			0.06	0.38						
		Impact (acres)	0.06	0.38					0.06	0.38			0.06	0.38			0.06	0.38						
		Animal Habitat	fair	poor					fair	poor			fair	poor			fair	poor						
		Botanical	poor	fair					poor	fair			poor	fair			poor	fair						
		Hydrology	fair	fair					fair	fair			fair	fair			fair	fair						
		Red Flags	N	N					N	N			N	N			N	N						
S6W026	USACE Jurisdiction: Yes	Cowardin et al. Classification																					PEM	
		Indiana Community Type																					SHM	
		Size (acres)																					1.97	
		Impact (acres)																					0.01	
		Animal Habitat																					fair	
		Botanical																					fair	
		Hydrology																					fair	
		Red Flags																					N	
S6W027	USACE Jurisdiction: Yes	Cowardin et al. Classification																					PUB	
		Indiana Community Type																					pond	
		Size (acres)																					1.21	
		Impact (acres)																					0.15	
		Animal Habitat																					no rating	
		Botanical																					no rating	
		Hydrology																					no rating	
		Red Flags																					no rating	
S6W028	USACE Jurisdiction: Yes	Cowardin et al. Classification																					PEM	
		Indiana Community Type																					SFB	
		Size (acres)																					0.04	
		Impact (acres)																					0.00	
		Animal Habitat																					poor	
		Botanical																					poor	
		Hydrology																					poor	
		Red Flags																					N	

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA						
S6W034	USACE Jurisdiction: Yes	Cowardin et al. Classification											PEM												
		Indiana Community Type												WP											
		Size (acres)												0.15											
		Impact (acres)												0.15											
		Animal Habitat												poor											
		Botanical												poor											
		Hydrology												good											
		Red Flags												N											
S6W035	USACE Jurisdiction: Yes	Cowardin et al. Classification																							
		Indiana Community Type												PSS											
		Size (acres)												SC											
		Impact (acres)												0.02											
		Animal Habitat												0.02											
		Botanical												fair											
		Hydrology												poor											
		Red Flags												fair											
S6W037	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM				PEM					PEM					PEM					PEM			
		Indiana Community Type	WM				WM				WM			WM			WM					WM			
		Size (acres)	0.06				0.06				0.06			0.06			0.06					0.06			
		Impact (acres)	0.06				0.05				0.01			0.05			0.05					0.05			
		Animal Habitat	poor				poor				poor			poor			poor					poor			
		Botanical	poor				poor				poor			poor			poor					poor			
		Hydrology	fair				fair				fair			fair			fair					fair			
		Red Flags	N				N				N			N			N					N			
S6W039	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM										PEM												
		Indiana Community Type	SHM										SHM												
		Size (acres)	0.61										0.61												
		Impact (acres)	0.45										0.45												
		Animal Habitat	fair										fair												
		Botanical	poor										poor												
		Hydrology	fair										fair												
		Red Flags	N										N												
S6W040	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM				PEM					PEM				PEM					PEM				
		Indiana Community Type	WM				WM				WM			WM			WM					WM			
		Size (acres)	0.04				0.04				0.04			0.04			0.04					0.04			
		Impact (acres)	0.04				0.04				0.04			0.04			0.04					0.04			
		Animal Habitat	poor				poor				poor			poor			poor					poor			
		Botanical	poor				poor				poor			poor			poor					poor			
		Hydrology	fair				fair				fair			fair			fair					fair			
		Red Flags	N				N				N			N			N					N			
S6W041	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM				PEM					PEM				PEM					PEM				
		Indiana Community Type	SM				SM				SM			SM			SM					SM			
		Size (acres)	0.14				0.14				0.14			0.14			0.14					0.14			
		Impact (acres)	0.14				0.14				0.14			0.14			0.14					0.14			
		Animal Habitat	poor				poor				poor			poor			poor					poor			
		Botanical	poor				poor				poor			poor			poor					poor			
		Hydrology	fair				fair				fair			fair			fair					fair			
		Red Flags	N				N				N			N			N					N			
S6W046	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM				PEM					PEM				PEM					PEM				
		Indiana Community Type	WP				WP				WP			WP			WP					WP			
		Size (acres)	0.10				0.10				0.10			0.10			0.10					0.10			
		Impact (acres)	0.10				0.10				0.10			0.10			0.10					0.10			
		Animal Habitat	fair				fair				fair			fair			fair					fair			
		Botanical	poor				poor				poor			poor			poor					poor			
		Hydrology	fair				fair				fair			fair			fair					fair			
		Red Flags	N				N				N			N			N					N			

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA							
S6W047	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM					PEM							PEM					PEM						
		Indiana Community Type	WM					WM							WM					WM						
		Size (acres)	0.03					0.03							0.03					0.03						
		Impact (acres)	0.03					0.03							0.03					0.03						
		Animal Habitat	poor					poor							poor					poor						
		Botanical	poor					poor							poor					poor						
		Hydrology	fair					fair							fair					fair						
Red Flags	N					N							N					N								
S6W048	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM	PFO	PUB	PEM		PEM	PFO	PUB	PEM		PEM	PFO	PUB	PEM		PEM	PFO	PUB	PEM		PEM	PFO	PUB	PEM
		Indiana Community Type	SFB	SF	SOW	SFB		SFB	SF	SOW	SFB		SFB	SF	SOW	SFB		SFB	SF	SOW	SFB		SFB	SF	SOW	SFB
		Size (acres)	0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13
		Impact (acres)	0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13		0.11	0.75	0.06	0.13
		Animal Habitat	poor	fair	poor	poor		poor	fair	poor	poor		poor	fair	poor	poor		poor	fair	poor	poor		poor	fair	poor	poor
		Botanical	poor	poor	poor	poor		poor	poor	poor	poor		poor	poor	poor	poor		poor	poor	poor	poor		poor	poor	poor	poor
		Hydrology	fair	fair	fair	poor		fair	fair	fair	poor		fair	fair	fair	poor		fair	fair	fair	poor		fair	fair	fair	poor
Red Flags	N	N	N	N		N	N	N	N		N	N	N	N		N	N	N	N		N	N	N	N		
S6W050	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB						PUB					PUB							
		Indiana Community Type	pond					pond						pond					pond							
		Size (acres)	0.48					0.48						0.48					0.48							
		Impact (acres)	0.11					0.10						0.10					0.21							
		Animal Habitat	no rating					no rating						no rating					no rating							
		Botanical	no rating					no rating						no rating					no rating							
		Hydrology	no rating					no rating						no rating					no rating							
Red Flags																										
S6W051	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB						PUB					PUB							
		Indiana Community Type	pond					pond						pond					pond							
		Size (acres)	0.39					0.39						0.39					0.39							
		Impact (acres)	0.06					0.08						0.08					0.12							
		Animal Habitat	no rating					no rating						no rating					no rating							
		Botanical	no rating					no rating						no rating					no rating							
		Hydrology	no rating					no rating						no rating					no rating							
Red Flags																										
S6W052	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB						PUB					PUB							
		Indiana Community Type	pond					pond						pond					pond							
		Size (acres)	0.35					0.35						0.35					0.35							
		Impact (acres)	0.08					0.09						0.09					0.10							
		Animal Habitat	no rating					no rating						no rating					no rating							
		Botanical	no rating					no rating						no rating					no rating							
		Hydrology	no rating					no rating						no rating					no rating							
Red Flags																										
S6W053	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO					PFO						PFO					PFO							
		Indiana Community Type	FF					FF						FF					FF							
		Size (acres)	0.40					0.40						0.40					0.40							
		Impact (acres)	0.04					0.04						0.04					0.02							
		Animal Habitat	good					good						good					good							
		Botanical	poor					poor						poor					poor							
		Hydrology	fair					fair						fair					fair							
Red Flags	N					N						N					N									
S6W054	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO					PFO						PFO					PFO							
		Indiana Community Type	FF					FF						FF					FF							
		Size (acres)	0.49					0.49						0.49					0.49							
		Impact (acres)	0.28					0.26						0.12					0.26							
		Animal Habitat	good					good						good					good							
		Botanical	poor					poor						poor					poor							
		Hydrology	fair					fair						fair					fair							
Red Flags	N					N						N					N									

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA						
S6W055	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO					PFO							PFO					PFO					
		Indiana Community Type	FF					FF							FF					FF					
		Size (acres)	0.21					0.21							0.21					0.21					
		Impact (acres)	0.07					0.07							0.07					0.08					
		Animal Habitat	fair					fair							fair					fair					
		Botanical	fair					fair							fair					fair					
		Hydrology	good					good							good					good					
		Red Flags	N					N							N					N					
S6W056	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO					PFO							PFO					PFO					
		Indiana Community Type	SF					SF							SF					SF					
		Size (acres)	0.16					0.16							0.16					0.16					
		Impact (acres)	0.13					0.13							0.13					0.11					
		Animal Habitat	fair					fair							fair					fair					
		Botanical	poor					poor							poor					poor					
		Hydrology	good					good							good					good					
		Red Flags	N					N							N					N					
S6W057	USACE Jurisdiction: Yes	Cowardin et al. Classification												PEM	PEM	PEM	PEM								
		Indiana Community Type												WP	WP	WM	WP								
		Size (acres)												0.19	0.22	0.71	0.24								
		Impact (acres)												0.08	0.08	0.67	0.23								
		Animal Habitat												poor	poor	fair	fair								
		Botanical												poor	poor	poor	poor								
		Hydrology												fair	fair	fair	fair								
		Red Flags												N	N	N	N								
S6W058	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB	PEM				PUB	PEM					PUB	PEM				PUB	PEM					
		Indiana Community Type	SOW	SHM				SOW	SHM					SOW	SHM				SOW	SHM					
		Size (acres)	3.06	0.21				3.06	0.21					3.06	0.21				3.06	0.21					
		Impact (acres)	0.00	0.03				0.00	0.12					0.05	0.09				0.01	0.06					
		Animal Habitat	poor	poor				poor	poor					poor	poor				poor	poor					
		Botanical	poor	poor				poor	poor					poor	poor				poor	poor					
		Hydrology	fair	fair				fair	fair					fair	fair				fair	fair					
		Red Flags	N	N				N	N					N	N				N	N					
S6W059	USACE Jurisdiction: Yes	Cowardin et al. Classification						PEM	PFO					PEM	PFO				PEM	PFO					
		Indiana Community Type						WM	FF					WM	FF				WM	FF					
		Size (acres)						12.24	0.34					12.24	0.34				12.24	0.34					
		Impact (acres)						5.14	0.21					3.17	0.34				0.00	0.01					
		Animal Habitat						poor	fair					poor	fair				poor	fair					
		Botanical						poor	poor					poor	poor				poor	poor					
		Hydrology						fair	fair					fair	fair				fair	fair					
		Red Flags						N	N					N	N				N	N					
S6W062	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO					PFO						PFO					PFO						
		Indiana Community Type	FF					FF						FF					FF						
		Size (acres)	0.03					0.03						0.03					0.03						
		Impact (acres)	0.03					0.03						0.03					0.03						
		Animal Habitat	fair					fair						fair					fair						
		Botanical	poor					poor						poor					poor						
		Hydrology	good					good						good					good						
		Red Flags	N					N						N					N						
S6W063	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM					PEM						PEM					PEM						
		Indiana Community Type	WM					WM						WM					WM						
		Size (acres)	0.05					0.05						0.05					0.05						
		Impact (acres)	0.05					0.05						0.05					0.05						
		Animal Habitat	poor					poor						poor					poor						
		Botanical	poor					poor						poor					poor						
		Hydrology	fair					fair						fair					fair						
		Red Flags	N					N						N					N						

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA							
S6W064	USACE Jurisdiction: Yes	Cowardin et al. Classification							PFO							PFO					PFO					
		Indiana Community Type							FF								FF					FF				
		Size (acres)							0.02								0.02					0.02				
		Impact (acres)							0.00								0.00					0.00				
		Animal Habitat							good								good					good				
		Botanical							poor								poor					poor				
		Hydrology							fair								fair					fair				
		Red Flags							N								N					N				
S6W065	USACE Jurisdiction: Yes	Cowardin et al. Classification							PFO							PFO					PFO					
		Indiana Community Type							FF							FF					FF					
		Size (acres)							0.01							0.01					0.01					
		Impact (acres)							0.01							0.01					0.01					
		Animal Habitat							fair							fair					fair					
		Botanical							poor							poor					poor					
		Hydrology							good							good					good					
		Red Flags							N							N					N					
S6W066	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM						PEM						PEM					PEM						
		Indiana Community Type	WM						WM						WM					WM						
		Size (acres)	0.41						0.41						0.41					0.41						
		Impact (acres)	0.41						0.41						0.41					0.41						
		Animal Habitat	fair						fair						fair					fair						
		Botanical	poor						poor						poor					poor						
		Hydrology	fair						fair						fair					fair						
		Red Flags	N						N						N					N						
S6W067	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO						PFO						PFO					PFO						
		Indiana Community Type	FF						FF						FF					FF						
		Size (acres)	0.05						0.05						0.05					0.05						
		Impact (acres)	0.05						0.05						0.04					0.05						
		Animal Habitat	good						good						good					good						
		Botanical	poor						poor						poor					poor						
		Hydrology	fair						fair						fair					fair						
		Red Flags	N						N						N					N						
S6W068	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO						PFO						PFO					PFO						
		Indiana Community Type	FF						FF						FF					FF						
		Size (acres)	0.35						0.35						0.35					0.35						
		Impact (acres)	0.27						0.22						0.09					0.22						
		Animal Habitat	fair						fair						fair					fair						
		Botanical	poor						poor						poor					poor						
		Hydrology	good						good						good					good						
		Red Flags	N						N						N					N						
S6W069	USACE Jurisdiction: Yes	Cowardin et al. Classification	PFO						PFO						PFO					PFO						
		Indiana Community Type	FF						FF						FF					FF						
		Size (acres)	0.33												0.33					0.33						
		Impact (acres)	0.33												0.33					0.33						
		Animal Habitat	fair						fair						fair					fair						
		Botanical	poor												poor					poor						
		Hydrology	fair												fair					fair						
		Red Flags	N												N					N						
S6W070	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM						PEM						PEM					PEM						
		Indiana Community Type	WM						WM						WM					WM						
		Size (acres)	0.10						0.10						0.10					0.10						
		Impact (acres)	0.09						0.09						0.04					0.09						
		Animal Habitat	fair						fair						fair					fair						
		Botanical	poor						poor						poor					poor						
		Hydrology	fair						fair						fair					fair						
		Red Flags	N						N						N					N						

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

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Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA			
S6W071	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM					PEM					PEM					PEM				
		Indiana Community Type	WM					WM					WM					WM				
		Size (acres)	0.11					0.11					0.11					0.11				
		Impact (acres)	0.11					0.11					0.11					0.11				
		Animal Habitat	fair					fair					fair					fair				
		Botanical	poor					poor					poor					poor				
		Hydrology	poor					poor					poor					poor				
		Red Flags	N					N					N					N				
S6W077	USACE Jurisdiction: Yes	Cowardin et al. Classification	PSS					PSS					PSS					PSS				
		Indiana Community Type	SC					SC					SC					SC				
		Size (acres)	0.03					0.03					0.03					0.03				
		Impact (acres)	0.03					0.03					0.00					0.03				
		Animal Habitat	fair					fair					fair					fair				
		Botanical	poor					poor					poor					poor				
		Hydrology	fair					fair					fair					fair				
		Red Flags	N					N					N					N				
S6W080	USACE Jurisdiction: Yes	Cowardin et al. Classification	PSS					PSS					PSS					PSS				
		Indiana Community Type	SC					SC					SC					SC				
		Size (acres)	0.20					0.20					0.20					0.20				
		Impact (acres)	0.02					0.02					0.02					0.02				
		Animal Habitat	fair					fair					fair					fair				
		Botanical	poor					poor					poor					poor				
		Hydrology	fair					fair					fair					fair				
		Red Flags	N					N					N					N				
S6W082	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM					PEM					PEM					PEM				
		Indiana Community Type	WM					WM					WM					WM				
		Size (acres)	0.02					0.02					0.02					0.02				
		Impact (acres)	0.02					0.02					0.02					0.02				
		Animal Habitat	poor					poor					poor					poor				
		Botanical	poor					poor					poor					poor				
		Hydrology	fair					fair					fair					fair				
		Red Flags	N					N					N					N				
S6W083	USACE Jurisdiction: Yes	Cowardin et al. Classification																				PUB
		Indiana Community Type																				pond
		Size (acres)																				1.18
		Impact (acres)																				0.00
		Animal Habitat																				no rating
		Botanical																				no rating
		Hydrology																				no rating
		Red Flags																				
S6W085	USACE Jurisdiction: No	Cowardin et al. Classification	PEM					PEM					PEM					PEM				
		Indiana Community Type	WM					WM					WM					WM				
		Size (acres)	0.05					0.05					0.05					0.05				
		Impact (acres)	0.00					0.00					0.00					0.00				
		Animal Habitat	poor					poor					poor					poor				
		Botanical	poor					poor					poor					poor				
		Hydrology	poor					poor					poor					poor				
		Red Flags	N					N					N					N				
S6W087	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB																			
		Indiana Community Type	SOW																			
		Size (acres)	0.09																			
		Impact (acres)	0.00																			
		Animal Habitat	poor																			
		Botanical	fair																			
		Hydrology	poor																			
		Red Flags	N																			

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

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Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA							
S6W088	USACE Jurisdiction: Yes	Cowardin et al. Classification																			PUB					
		Indiana Community Type																				pond				
		Size (acres)																				0.13				
		Impact (acres)																				0.02				
		Animal Habitat																				no rating				
		Botanical																				no rating				
		Hydrology																				no rating				
		Red Flags																				no rating				
S6W089	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM	PSS	PUB					PEM	PSS	PUB									PEM	PSS	PUB			
		Indiana Community Type	WM	SC	SOW					WM	SC	SOW									WM	SC	SOW			
		Size (acres)	0.17	0.07	0.60					0.17	0.07	0.60									0.17	0.07	0.60			
		Impact (acres)	0.00	0.00	0.22					0.00	0.00	0.01									0.00	0.00	0.58			
		Animal Habitat	fair	fair	poor					fair	fair	poor									fair	fair	poor			
		Botanical	poor	poor	poor					poor	poor	poor									poor	poor	poor			
		Hydrology	fair	fair	fair					fair	fair	fair									fair	fair	fair			
		Red Flags	N	N	N					N	N	N									N	N	N			
S6W090	USACE Jurisdiction: Yes	Cowardin et al. Classification																			PUB					
		Indiana Community Type																				pond				
		Size (acres)																				0.74				
		Impact (acres)																				0.04				
		Animal Habitat																				no rating				
		Botanical																				no rating				
		Hydrology																				no rating				
		Red Flags																				no rating				
S6W091	USACE Jurisdiction: Yes	Cowardin et al. Classification																			PEM					
		Indiana Community Type																				SFB				
		Size (acres)																				0.02				
		Impact (acres)																				0.02				
		Animal Habitat																				fair				
		Botanical																				poor				
		Hydrology																				poor				
		Red Flags																				N				
S6W094	USACE Jurisdiction: Yes	Cowardin et al. Classification																			PEM					
		Indiana Community Type																				WM				
		Size (acres)																				0.04				
		Impact (acres)																				0.04				
		Animal Habitat																				fair				
		Botanical																				poor				
		Hydrology																				fair				
		Red Flags																				N				
S6W095	USACE Jurisdiction: Yes	Cowardin et al. Classification																				PUB				
		Indiana Community Type																				pond				
		Size (acres)																				10.91				
		Impact (acres)																				0.05				
		Animal Habitat																				no rating				
		Botanical																				no rating				
		Hydrology																				no rating				
		Red Flags																				no rating				
S6W097	USACE Jurisdiction: Yes	Cowardin et al. Classification																				PUB				
		Indiana Community Type																				pond				
		Size (acres)																				2.05				
		Impact (acres)																				0.37				
		Animal Habitat																				no rating				
		Botanical																				no rating				
		Hydrology																				no rating				
		Red Flags																				no rating				

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

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Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA					
S6W099	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						
S6W100	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						
S6W101	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						
S6W103	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						
S6W104	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						
S6W105	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						
S6W108	USACE Jurisdiction: Yes	Cowardin et al. Classification																						
		Indiana Community Type																						
		Size (acres)																						
		Impact (acres)																						
		Animal Habitat																						
		Botanical																						
		Hydrology																						
		Red Flags																						

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

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Wetland ID		DATA	Alternative C1					Alternative C2					Alternative C3					Alternative C4					RPA								
S6W109	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB						PUB					PUB												
		Indiana Community Type	pond					pond						pond					pond												
		Size (acres)	23.00					23.00						23.00					23.00												
		Impact (acres)	0.20					1.64						1.64					1.64												
		Animal Habitat	no rating					no rating						no rating					no rating												
		Botanical	no rating					no rating						no rating					no rating												
		Hydrology	no rating					no rating						no rating					no rating												
		Red Flags																													
S6W110	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB					PUB					PUB													
		Indiana Community Type	pond					pond					pond					pond													
		Size (acres)	15.02					15.02					15.02					15.02													
		Impact (acres)	4.22					3.51					3.51					3.51													
		Animal Habitat	no rating					no rating					no rating					no rating													
		Botanical	no rating					no rating					no rating					no rating													
		Hydrology	no rating					no rating					no rating					no rating													
		Red Flags																													
S6W111	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB					PUB					PUB													
		Indiana Community Type	pond					pond					pond					pond													
		Size (acres)	0.55					0.55					0.55					0.55													
		Impact (acres)	0.27					0.10					0.10					0.10													
		Animal Habitat	no rating					no rating					no rating					no rating													
		Botanical	no rating					no rating					no rating					no rating													
		Hydrology	no rating					no rating					no rating					no rating													
		Red Flags																													
S6W113	USACE Jurisdiction: No	Cowardin et al. Classification	PSS					PSS					PSS					PSS													
		Indiana Community Type	SC					SC					SC					SC													
		Size (acres)	0.39					0.39					0.39					0.39													
		Impact (acres)	0.22					0.05					0.05					0.05													
		Animal Habitat	poor					poor					poor					poor													
		Botanical	poor					poor					poor					poor													
		Hydrology	fair					fair					fair					fair													
		Red Flags	N					N					N					N													
S6W116	USACE Jurisdiction: Yes	Cowardin et al. Classification	PEM					PEM					PEM					PEM													
		Indiana Community Type	WM					WM					WM					WM													
		Size (acres)	0.04					0.04					0.04					0.04													
		Impact (acres)	0.04					0.04					0.04					0.04													
		Animal Habitat	poor					poor					poor					poor													
		Botanical	poor					poor					poor					poor													
		Hydrology	poor					poor					poor					poor													
		Red Flags	N					N					N					N													
S6W117	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB					PUB					PUB													
		Indiana Community Type	pond					pond					pond					pond													
		Size (acres)	0.23					0.23					0.23					0.23													
		Impact (acres)	0.10					0.10					0.12					0.12													
		Animal Habitat	no rating					no rating					no rating					no rating													
		Botanical	no rating					no rating					no rating					no rating													
		Hydrology	no rating					no rating					no rating					no rating													
		Red Flags																													
S6W118	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB					PUB					PUB													
		Indiana Community Type	pond					pond					pond					pond													
		Size (acres)	0.10					0.10					0.10					0.10													
		Impact (acres)	0.10					0.10					0.10					0.10													
		Animal Habitat	no rating					no rating					no rating					no rating													
		Botanical	no rating					no rating					no rating					no rating													
		Hydrology	no rating					no rating					no rating					no rating													
		Red Flags																													

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID		DATA	Alternative C1				Alternative C2				Alternative C3				Alternative C4				RPA			
S6W119	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB					PUB					PUB				
		Indiana Community Type	pond					pond					pond					pond				
		Size (acres)	0.08					0.08					0.08					0.08				
		Impact (acres)	0.08					0.03					0.03					0.03				
		Animal Habitat	no rating					no rating					no rating					no rating				
		Botanical	no rating					no rating					no rating					no rating				
		Hydrology	no rating					no rating					no rating					no rating				
		Red Flags																				
S6W120	USACE Jurisdiction: Yes	Cowardin et al. Classification	PUB					PUB					PUB					PUB				
		Indiana Community Type	pond					pond					pond					pond				
		Size (acres)	1.64					1.64					1.64					1.64				
		Impact (acres)	0.26					0.26					0.26					0.26				
		Animal Habitat	no rating					no rating					no rating					no rating				
		Botanical	no rating					no rating					no rating					no rating				
		Hydrology	no rating					no rating					no rating					no rating				
		Red Flags																				
S6W123	USACE Jurisdiction: Yes	Cowardin et al. Classification											PUB									
		Indiana Community Type											pond									
		Size (acres)											0.16									
		Impact (acres)											0.03									
		Animal Habitat											no rating									
		Botanical											no rating									
		Hydrology											no rating									
		Red Flags																				
S6W126	USACE Jurisdiction: No	Cowardin et al. Classification															PEM				PEM	
		Indiana Community Type															SFB				SFB	
		Size (acres)															0.12				0.12	
		Impact (acres)															0.01				0.01	
		Animal Habitat															poor				poor	
		Botanical															poor				poor	
		Hydrology															fair				fair	
		Red Flags															N				N	
S6W127	USACE Jurisdiction: Yes	Cowardin et al. Classification						PSS					PSS				PSS				PSS	
		Indiana Community Type						SC					SC				SC				SC	
		Size (acres)						0.21					0.21				0.21				0.21	
		Impact (acres)						0.21					0.21				0.21				0.21	
		Animal Habitat						poor					poor				poor				poor	
		Botanical						poor					poor				poor				poor	
		Hydrology						fair					fair				fair				fair	
		Red Flags						N					N				N				N	
S6W128	USACE Jurisdiction: Yes	Cowardin et al. Classification						PEM					PEM				PEM				PEM	
		Indiana Community Type						WM					WM				WM				WM	
		Size (acres)						0.18					0.18				0.18				0.18	
		Impact (acres)						0.18					0.18				0.18				0.18	
		Animal Habitat						poor					poor				poor				poor	
		Botanical						poor					poor				poor				poor	
		Hydrology						fair					fair				fair				fair	
		Red Flags						N					N				N				N	

Wetland Matrix for I-69 Alternatives: Section 6 Right-of-Way Limits

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative

Wetland ID	DATA	Alternative C1	Alternative C2	Alternative C3	Alternative C4	RPA
------------	------	----------------	----------------	----------------	----------------	-----

Indiana Community Type Abbreviations

- B = bog
- DM = deep marsh
- F = fen
- FF = floodplain forest
- SMF = sand/muck flat
- SFB = seasonally flooded basin
- SM = sedge meadow
- SHM = shallow marsh
- SOW = shallow open water
- SC = scrub-carr
- SW = swamp forest
- WM = wet meadow
- WP = wet prairie

Cowardin et al. Classifications

- PEM = palustrine emergent
- PSS = palustrine scrub/shrub
- PFO = palustrine forest
- PAB = palustrine aquatic bed

Red Flag Indicators (for specific information regarding the nature of a red flag indicator designated by "Y", consult the InWRAP data sheets)

- Y = yes
- N = no

Note: USACE jurisdictional status is based on professional opinion only. Official correspondence on jurisdictional verification will be completed during permitting.

Gray shaded cells indicate wetland polygons that are entirely or partially within the construction limits of the respective alternative



APPENDIX E

USACE Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W001A City/County: Morgan Sampling Date: 10/21/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC25A-1D1
 Investigator(s): Rusty Yeager, Kate Lucier Section, Township, Range: Sec 18-T11N-R1E
 Landform (hillslope, terrace, etc.): oxbow hillslope top Local relief (concave, convex, none): concave
 Slope (%): 6-12 Lat: 39.394180 Long: -86.459918 Datum: NAD83
 Soil Map Unit Name: Genesee silt loam NWI classification: PFO1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Although predominant hydrophytic vegetation is present, this data point lacks positive hydrology and hydric soil indicators.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Acer negundo</u>	30	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>60</u> (A/B)																																
2. <u>Juglans nigra</u>	10	Yes	FACU																																	
3. <u>Acer saccharinum</u>	10	Yes	FACW																																	
4. _____																																				
5. _____																																				
	50 = Total Cover																																			
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:																																
1. _____				<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">0</td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">30</td> <td>x 2 =</td> <td align="center">60</td> </tr> <tr> <td>FAC species</td> <td align="center">80</td> <td>x 3 =</td> <td align="center">240</td> </tr> <tr> <td>FACU species</td> <td align="center">35</td> <td>x 4 =</td> <td align="center">140</td> </tr> <tr> <td>UPL species</td> <td align="center">0</td> <td>x 5 =</td> <td align="center">0</td> </tr> <tr> <td>Column Totals:</td> <td align="center">145</td> <td>(A)</td> <td align="center">440 (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <u>3.03</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	30	x 2 =	60	FAC species	80	x 3 =	240	FACU species	35	x 4 =	140	UPL species	0	x 5 =	0	Column Totals:	145	(A)	440 (B)	Prevalence Index = B/A = <u>3.03</u>			
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	30	x 2 =	60																																	
FAC species	80	x 3 =	240																																	
FACU species	35	x 4 =	140																																	
UPL species	0	x 5 =	0																																	
Column Totals:	145	(A)	440 (B)																																	
Prevalence Index = B/A = <u>3.03</u>																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
	0 = Total Cover																																			
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:																																
1. <u>Symphyotrichum lanceolatum</u>	30	Yes	FAC	1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <u>Sanicula canadensis</u>	25	Yes	FACU																																	
3. <u>Rudbeckia laciniata</u>	10		FACW																																	
4. <u>Ambrosia trifida</u>	10		FAC																																	
5. <u>Pilea pumila</u>	5		FACW																																	
6. <u>Viola sororia</u>	5		FAC																																	
7. <u>Laportea canadensis</u>	5		FACW																																	
8. <u>Smilax hispida</u>	5		FAC																																	
9. _____																																				
10. _____																																				
	95 = Total Cover																																			
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																																
1. _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	0 = Total Cover																																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	100					silty clay loam	
5-20	10YR4/3	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:
Redoximorphic indicators were not noted.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Evidence of Indian Creek flood events is noted in the area, but does not appear to provide sustain hydrology conditions for the higher portions of this floodplain region represented by this data point. Data point is 5+ feet above the bottom of the adjacent oxbow wetland feature

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W001A City/County: Morgan Sampling Date: 10/21/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC25A-1W1
 Investigator(s): Rusty Yeager, Kate Lucier Section, Township, Range: Sec 18-T11N-R1E
 Landform (hillslope, terrace, etc.): floodplain oxbow Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.394294 Long: -86.459924 Datum: NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: PFO1A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Tthis data point represents the majority of this oxbow feature which generally lacks shrub and herbaceous vegetation, but exhibits primary indicators of hydrology and hydric soils.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Acer saccharinum</u>	50	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. <u>Acer negundo</u>	25	Yes	FAC																																	
3. <u>Platanus occidentalis</u>	25	Yes	FACW																																	
4. <u>Ulmus americana</u>	10	No	FACW																																	
5. _____																																				
	<u>110</u>	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				Prevalence Index worksheet:																																
1. _____				<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>85</u></td> <td>x 2 =</td> <td align="center"><u>170</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>25</u></td> <td>x 3 =</td> <td align="center"><u>75</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>110</u></td> <td>(A)</td> <td align="center"><u>245</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.23</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>85</u>	x 2 =	<u>170</u>	FAC species	<u>25</u>	x 3 =	<u>75</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>110</u>	(A)	<u>245</u> (B)	Prevalence Index = B/A = <u>2.23</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>85</u>	x 2 =	<u>170</u>																																	
FAC species	<u>25</u>	x 3 =	<u>75</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>110</u>	(A)	<u>245</u> (B)																																	
Prevalence Index = B/A = <u>2.23</u>																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
	<u>0</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators:																																
1. _____				___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	<u>0</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>30'</u> radius)				Hydrophytic Vegetation Present?																																
1. _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	<u>0</u>	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)
 Trees were located around the periphery of this oxbow feature. The central portion of the wetland represented by the data point is devoid of herbaceous vegetation due to extended period of deep inundation.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/2	90	5YR4/6	10	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:
 A depleted matrix (F3) was confirmed based on the presence of reddish redoximorphic features throughout the soil pedon.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 In May 2015 the site was observed to be saturated to the surface throughout.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W002A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC02A-1W1
 Investigator(s): Danika Fleck, Matt Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): shallow depression in valley plain Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 39.398577 Long: -86.452499 Datum: NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point represents small wooded depression adjacent to gravel frontage road on south side of SR37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>20'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. <u>Acer saccharinum</u>	40	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																								
2. <u>Celtis occidentalis</u>	5	No	FAC																									
3. <u>Cornus racemosa</u>	5	No	FAC																									
4. <u>Fraxinus pennsylvanica</u>	35	Yes	FACW																									
5. <u>Ulmus americana</u>	10	No	FACW																									
	<u>95</u>	= Total Cover																										
Sapling/Shrub Stratum (Plot Size: <u>20'</u> radius)																												
1. <u>Cornus racemosa</u>	20	No	FAC	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align: center;">Total % Cover of:</td> <td style="width:25%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>15</u></td> <td align="center">x 1 = <u>15</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>135</u></td> <td align="center">x 2 = <u>270</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>50</u></td> <td align="center">x 3 = <u>150</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td align="center">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>200</u> (A)</td> <td align="center"><u>435</u> (B)</td> </tr> <tr> <td colspan="3" style="padding-top: 10px;">Prevalence Index = B/A = <u>2.18</u></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species	<u>15</u>	x 1 = <u>15</u>	FACW species	<u>135</u>	x 2 = <u>270</u>	FAC species	<u>50</u>	x 3 = <u>150</u>	FACU species	<u>0</u>	x 4 = <u>0</u>	UPL species	<u>0</u>	x 5 = <u>0</u>	Column Totals:	<u>200</u> (A)	<u>435</u> (B)	Prevalence Index = B/A = <u>2.18</u>		
	Total % Cover of:	Multiply by:																										
OBL species	<u>15</u>	x 1 = <u>15</u>																										
FACW species	<u>135</u>	x 2 = <u>270</u>																										
FAC species	<u>50</u>	x 3 = <u>150</u>																										
FACU species	<u>0</u>	x 4 = <u>0</u>																										
UPL species	<u>0</u>	x 5 = <u>0</u>																										
Column Totals:	<u>200</u> (A)	<u>435</u> (B)																										
Prevalence Index = B/A = <u>2.18</u>																												
2.																												
3.																												
4.																												
5.																												
	<u>20</u>	= Total Cover																										
Herb Stratum (Plot Size: <u>5'</u> radius)																												
1. <u>Toxicodendron radicans</u>	20	Yes	FAC	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																								
2. <u>Carex cristatella</u>	20	Yes	FACW																									
3. <u>Elymus virginicus</u>	15	Yes	FACW																									
4. <u>Carex squarrosa</u>	15	Yes	OBL																									
5. <u>Carex vulpinoidea</u>	10	No	FACW																									
6. <u>Carex grayi</u>	5	No	FACW																									
7.																												
8.																												
9.																												
10.																												
	<u>85</u>	= Total Cover																										
Vine Stratum (Plot Size: <u>20'</u> radius)																												
1.				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																								
2.																												
	<u>0</u>	= Total Cover																										

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR6/2	85	10YR5/6	15	C	M	silt loam	
3-20	10YR6/2	70	10YR5/4	30	C	M	silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W002A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC02B-1W1
 Investigator(s): Danika Fleck, Matt Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): shallow depression in valley plain Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 39.398490 Long: -86.452368 Datum: NAD83
 Soil Map Unit Name: Genesee silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: <u>Data point represents extension of wooded wetland to the west that is used for hay production.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>10'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>15</u></td> <td>x 1 =</td> <td align="center"><u>15</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>75</u></td> <td>x 3 =</td> <td align="center"><u>225</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>260</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.60</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>15</u>	x 1 =	<u>15</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>75</u>	x 3 =	<u>225</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>260</u> (B)	Prevalence Index = B/A = <u>2.60</u>			
Total % Cover of:		Multiply by:																																		
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UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>260</u> (B)																																	
Prevalence Index = B/A = <u>2.60</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>10'</u> radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <u><i>Symphyotrichum lanceolatum</i></u> 70 Yes FAC 2. <u><i>Juncus effusus</i></u> 10 No OBL 3. <u><i>Carex vulpinoidea</i></u> 10 No FACW 4. <u><i>Scirpus atrovirens</i></u> 5 No OBL 5. <u><i>Rumex crispus</i></u> 5 No FAC 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																																				
Vine Stratum (Plot Size: <u>10'</u> radius) 1. _____ 2. _____ _____ = Total Cover																																				

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
Field mowed for hay.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR6/2	80	10YR5/6	20	C	M	silt loam	
5-18	10YR6/2	60	10YR5/4	20	C	M	silt loam	
5-18	10YR6/2	60	10YR5/6	20	C	M	silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Muck Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils ³</p> <p><input type="checkbox"/> Coast Prairie Redox (A16)</p> <p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other Soil (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input checked="" type="checkbox"/> Crayfish Burrows (C8)</p> <p><input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p>
<p><input type="checkbox"/> Water Stained Leaves (B9)</p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	

<p>Field Observations:</p> <p>Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W003A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochumuller State: Indiana Sampling Point: IC01A-1D1
 Investigator(s): Danika Fleck, Matt Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): valley plain Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.398679 Long: -86.452281 Datum: NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: None of the wetland criteria are met at this point. This point represents the non-wetland conditions between two wetlands.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>405</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.05</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>100</u> (A)	<u>405</u> (B)	Prevalence Index = B/A = <u>4.05</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
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FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>100</u> (A)	<u>405</u> (B)																			
Prevalence Index = B/A = <u>4.05</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Schedonorus arundinaceus</i>	85	Yes	FACU																	
2. <i>Trifolium pratense</i>	10	No	FACU																	
3. <i>Viola sp.</i>	5	No	UPL																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 ___ 2-Dominance Test is >50%
 ___ 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 Field mowed for hay.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR5/3	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils ³ <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--	---

Field Observations:

Surface Water Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u> X </u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W003A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC01A-1W1
 Investigator(s): Danika Fleck, Matt Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): shallow depression in valley plain Local relief (concave, convex, none): concave
 Slope (%): 0 Lat: 39.398731 Long: -86.452133 Datum: NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point represents linear depression feature in hay field that collects seasonal surface water and meets all three wetland criteria.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>10'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>20</u></td> <td>x 1 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>20</u></td> <td>x 2 =</td> <td align="center"><u>40</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>60</u></td> <td>x 3 =</td> <td align="center"><u>180</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>240</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.40</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>20</u>	x 1 =	<u>20</u>	FACW species	<u>20</u>	x 2 =	<u>40</u>	FAC species	<u>60</u>	x 3 =	<u>180</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>240</u> (B)	Prevalence Index = B/A = <u>2.40</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>20</u>	x 1 =	<u>20</u>																																	
FACW species	<u>20</u>	x 2 =	<u>40</u>																																	
FAC species	<u>60</u>	x 3 =	<u>180</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>240</u> (B)																																	
Prevalence Index = B/A = <u>2.40</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>10'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u><i>Symphyotrichum lanceolatum</i></u>	<u>60</u>	Yes	FAC																																	
2. <u><i>Carex sp.</i></u>	<u>20</u>	Yes	FACW																																	
3. <u><i>Juncus effusus</i></u>	<u>15</u>	No	OBL																																	
4. <u><i>Echinochloa muricata</i></u>	<u>5</u>	No	OBL																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>100</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>10'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Field mowed for hay.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR6/2	70	10YR5/6	30			silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W004A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: IC03A-1D1
 Investigator(s): Danika Fleck, Matt Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): flat
 Slope (%): 0-1 Lat: 39.399300 Long: -86.451438 Datum: NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>80</u></td> <td>x 3 = <u>240</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>320</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.20</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>80</u>	x 3 = <u>240</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>320</u> (B)	Prevalence Index = B/A = <u>3.20</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>80</u>	x 3 = <u>240</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>320</u> (B)																			
Prevalence Index = B/A = <u>3.20</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Poa pratensis</i>	75	Yes	FAC																	
2. <i>Trifolium pratense</i>	15	No	FACU																	
3. <i>Viola sororia</i>	5	No	FAC																	
4. <i>Plantago lanceolata</i>	5	No	FACU																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				

Hydrophytic Vegetation Indicators:
 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 Periodically mowed

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR4/3	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W004A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC03A-1W1
 Investigator(s): Danika Fleck, Matt Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): flat
 Slope (%): 0-1 Lat: 39.399140 Long: -86.451797 Datum: NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
0 = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>45</u></td> <td>x 1 =</td> <td align="center"><u>45</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>45</u></td> <td>x 2 =</td> <td align="center"><u>90</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>10</u></td> <td>x 3 =</td> <td align="center"><u>30</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>165</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>1.65</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>45</u>	x 1 =	<u>45</u>	FACW species	<u>45</u>	x 2 =	<u>90</u>	FAC species	<u>10</u>	x 3 =	<u>30</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>165</u> (B)	Prevalence Index = B/A = <u>1.65</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>45</u>	x 1 =	<u>45</u>																																	
FACW species	<u>45</u>	x 2 =	<u>90</u>																																	
FAC species	<u>10</u>	x 3 =	<u>30</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>165</u> (B)																																	
Prevalence Index = B/A = <u>1.65</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <i>Juncus effusus</i> 30 Yes OBL 2. <i>Carex sp.</i> 30 Yes FACW 3. <i>Scirpus atrovirens</i> 15 No OBL 4. <i>Lysimachia nummularia</i> 15 No FACW 5. <i>Symphyotrichum lanceolatum</i> 10 No FAC 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
Vine Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ _____ = Total Cover					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR6/2	80	10YR5/6	20			silt loam	
5-18	10YR5/2	60	10YR5/4	20			silt loam	
			10YR5/6	20			silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W005A City/County: Morgan Sampling Date: 10/20/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC10A-1D1
 Investigator(s): K. Lucier Section, Township, Range: Sec 8-T1N-R11E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.400002 Long: -86.452091 Datum: GCS NAD83
 Soil Map Unit Name: Shoals silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>60</u></td> <td>x 2 =</td> <td align="center"><u>120</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>25</u></td> <td>x 3 =</td> <td align="center"><u>75</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>20</u></td> <td>x 4 =</td> <td align="center"><u>80</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>105</u></td> <td>(A)</td> <td align="center"><u>275</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.62</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>60</u>	x 2 =	<u>120</u>	FAC species	<u>25</u>	x 3 =	<u>75</u>	FACU species	<u>20</u>	x 4 =	<u>80</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>105</u>	(A)	<u>275</u> (B)	Prevalence Index = B/A = <u>2.62</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
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FAC species	<u>25</u>	x 3 =	<u>75</u>																																	
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Column Totals:	<u>105</u>	(A)	<u>275</u> (B)																																	
Prevalence Index = B/A = <u>2.62</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <i>Phalaris arundinacea</i>	60	Yes	FACW																																	
2. <i>Rubus argutus</i>	25	Yes	FAC																																	
3. <i>Chamaecrista nictitans</i>	10	No	FACU																																	
4. <i>Cirsium arvense</i>	5	No	FACU																																	
5. <i>Asclepias syriaca</i>	5	No	FACU																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>105</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation [‡] (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR5/4	95	10YR4/6	5	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <input checked="" type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W005A City/County: Morgan Sampling Date: 10/20/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC10A-1W1
 Investigator(s): K. Lucier Section, Township, Range: Sec 8-T1N-R11E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.400048 Long: -86.451969 Datum: GCS NAD83
 Soil Map Unit Name: Shoals silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>50</u></td> <td>x 1 = <u>50</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>125</u> (A)</td> <td><u>200</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.60</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>50</u>	x 1 = <u>50</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>125</u> (A)	<u>200</u> (B)	Prevalence Index = B/A = <u>1.60</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>50</u>	x 1 = <u>50</u>																			
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FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>125</u> (A)	<u>200</u> (B)																			
Prevalence Index = B/A = <u>1.60</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. <u>Salix interior</u>	25	Yes	FACW																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>25</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <u>Phalaris arundinacea</u>	50	Yes	FACW																	
2. <u>Typha latifolia</u>	25	Yes	OBL																	
3. <u>Lemna minor</u>	25	Yes	OBL																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	5GY5/3	95	10Yr4/6	5	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>16</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W007A City/County: Morgan Sampling Date: 10/20/2015
 Applicant/Owner: INDOT/Lochummueller State: Indiana Sampling Point: IC07A-1D1
 Investigator(s): K. Lucier, M. Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 2-6 Lat: 39.402384 Long: -83.445141 Datum: GCS NAD83
 Soil Map Unit Name Whitaker loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																																																																																				
1. <u>Ulmus americana</u>	30	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>75</u> (A/B)																																																																																																				
2. _____	_____	_____	_____																																																																																																					
3. _____	_____	_____	_____																																																																																																					
4. _____	_____	_____	_____																																																																																																					
5. _____	_____	_____	_____																																																																																																					
<u>30</u> = Total Cover				Prevalence Index worksheet:																																																																																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																																																																																								
1. <u>Morus alba</u>	10	Yes	FAC		<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>30</u></td> <td align="center">x 2 =</td> <td align="center"><u>60</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>90</u></td> <td align="center">x 3 =</td> <td align="center"><u>270</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>25</u></td> <td align="center">x 4 =</td> <td align="center"><u>100</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>145</u></td> <td align="center">(A)</td> <td align="center"><u>430</u> (B)</td> </tr> <tr> <td align="center" colspan="4"><u>10</u> = Total Cover</td> <td align="center">Prevalence Index = B/A = <u>2.97</u></td> </tr> <tr> <td colspan="4">Herb Stratum (Plot Size: <u>5'</u> radius)</td> <td rowspan="10">Hydrophytic Vegetation Indicators:</td> </tr> <tr> <td>1. <u>Poa pratensis</u></td> <td align="center">80</td> <td align="center">Yes</td> <td align="center">FAC</td> </tr> <tr> <td>2. <u>Schedonorus pratensis</u></td> <td align="center">25</td> <td align="center">Yes</td> <td align="center">FACU</td> </tr> <tr><td>3. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>7. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>8. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>9. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>10. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr> <td align="right" colspan="4"><u>105</u> = Total Cover</td> <td rowspan="3">Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> </tr> <tr> <td colspan="4">Vine Stratum (Plot Size: <u>15'</u> radius)</td> </tr> <tr> <td>1. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td align="right" colspan="4"><u>0</u> = Total Cover</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>30</u>	x 2 =	<u>60</u>	FAC species	<u>90</u>	x 3 =	<u>270</u>	FACU species	<u>25</u>	x 4 =	<u>100</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>145</u>	(A)	<u>430</u> (B)	<u>10</u> = Total Cover				Prevalence Index = B/A = <u>2.97</u>	Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators:	1. <u>Poa pratensis</u>	80	Yes	FAC	2. <u>Schedonorus pratensis</u>	25	Yes	FACU	3. _____	_____	_____	_____	4. _____	_____	_____	_____	5. _____	_____	_____	_____	6. _____	_____	_____	_____	7. _____	_____	_____	_____	8. _____	_____	_____	_____	9. _____	_____	_____	_____	10. _____	_____	_____	_____	<u>105</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Vine Stratum (Plot Size: <u>15'</u> radius)				1. _____	_____	_____	_____	2. _____	_____	_____	_____	<u>0</u> = Total Cover			
Total % Cover of:		Multiply by:																																																																																																						
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3. _____	_____	_____	_____																																																																																																					
4. _____	_____	_____	_____																																																																																																					
5. _____	_____	_____	_____																																																																																																					
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1. _____	_____	_____	_____																																																																																																					
2. _____	_____	_____	_____																																																																																																					
<u>0</u> = Total Cover																																																																																																								

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR4/3	100					silt loam	loose material
5-16	10YR4/3	100					silt loam	gravelly

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils ³ <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)
--	--	---

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>road fill with gravel</u> Depth (inches): <u>16 inches</u>	Hydric Soil present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W007A City/County: Morgan Sampling Date: 10/20/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC07A-1W1
 Investigator(s): K. Lucier, M. Brendel Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.402367 Long: -86.445031 Datum: GCS NAD83
 Soil Map Unit Name Whitaker loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Acer negundo</u>	5	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. <u>Acer saccharinum</u>	10	Yes	FACW																																	
3. <u>Fraxinus pennsylvanica</u>	5	No	FACW																																	
4. <u>Platanus occidentalis</u>	25	Yes	FACW																																	
5. <u>Ulmus americana</u>	5	No	FACW																																	
	<u>50</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>55</u></td> <td align="center">x 2 =</td> <td align="center"><u>110</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>15</u></td> <td align="center">x 3 =</td> <td align="center"><u>45</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td align="center">x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>70</u></td> <td align="center">(A)</td> <td align="center"><u>155</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.21</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>55</u>	x 2 =	<u>110</u>	FAC species	<u>15</u>	x 3 =	<u>45</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>70</u>	(A)	<u>155</u> (B)	Prevalence Index = B/A = <u>2.21</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>55</u>	x 2 =	<u>110</u>																																	
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UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>70</u>	(A)	<u>155</u> (B)																																	
Prevalence Index = B/A = <u>2.21</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u>Morus alba</u>	10	Yes	FAC																																	
2. <u>Platanus occidentalis</u>	5	Yes	FACW																																	
3. <u>Salix interior</u>	5	Yes	FACW																																	
4. _____																																				
5. _____																																				
	<u>20</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. _____																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
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10. _____																																				
	<u>0</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____																																				
2. _____																																				
	<u>0</u>	= Total Cover																																		

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR4/1	95	10YR4/6	5	C	M	silty clay loam	very dry

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W008A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC05A-1D1
 Investigator(s): Rusty Yeager, Lincoln Oliver Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): undulating
 Slope (%): 0-2 Lat: 39.401163 Long: -86.443755 Datum: NAD83
 Soil Map Unit Name Water NWI classification: PUBGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Although hydrophytic vegetation is present, sufficient hydrology indicators do not appear evident to meet the hydrology criteria or develop hydric soil indicators.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <i>Acer saccharinum</i>	15	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. <i>Platanus occidentalis</i>	10	No	FACW																	
3. <i>Salix nigra</i>	40	Yes	OBL																	
4. _____																				
5. _____																				
	<u>65</u>	= Total Cover																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <i>Acer saccharinum</i>	50	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>41</u></td> <td>x 1 = <u>41</u></td> </tr> <tr> <td>FACW species <u>85</u></td> <td>x 2 = <u>170</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>126</u></td> <td>(A) <u>211</u> (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A = <u>1.67</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>41</u>	x 1 = <u>41</u>	FACW species <u>85</u>	x 2 = <u>170</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>126</u>	(A) <u>211</u> (B)	Prevalence Index = B/A = <u>1.67</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>41</u>	x 1 = <u>41</u>																			
FACW species <u>85</u>	x 2 = <u>170</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>126</u>	(A) <u>211</u> (B)																			
Prevalence Index = B/A = <u>1.67</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
	<u>50</u>	= Total Cover																		
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <i>Pilea pumila</i>	10	Yes	FACW	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																
2. <i>Boehmeria cylindrica</i>	1	No	OBL																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
	<u>11</u>	= Total Cover																		
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																
2. _____																				
	<u>0</u>	= Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/3	99	5YR5/6	1	C	M	sandy loam	dry non-cohesive sand

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:
Sandy soils do not appear to remain wet for sufficient period of time to develop redoximorphic features.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Occasional flooding, but with no sustained inundation or surface saturation. No evidence of high water table, but to proximity of large lake and deep channel adjacent stream. No primary hydrology indicators noted during previous site visit in May 2015.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W008A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC05A-1W1
 Investigator(s): Rusty Yeager, Lincoln Oliver Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): old oxbow channel Local relief (concave, convex, none): floodplain depression
 Slope (%): 0-6 Lat: 39.401279 Long: -86.443774 Datum: NAD83
 Soil Map Unit Name Water NWI classification: PUBGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Old oxbow feature meets all three wetland criteria.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. <u>Acer saccharinum</u>	10	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Platanus occidentalis</u>	10	Yes	FACW															
3. <u>Salix nigra</u>	10	Yes	OBL															
4. _____																		
5. _____																		
	<u>30</u>	= Total Cover																
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:														
1. <u>Acer negundo</u>	5	Yes	FAC	<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>11</u></td> <td>x 1 = <u>11</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>41</u></td> <td>(A) <u>81</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>1.98</u>	Total % Cover of:	Multiply by:	OBL species <u>11</u>	x 1 = <u>11</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>41</u>	(A) <u>81</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>11</u>	x 1 = <u>11</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>41</u>	(A) <u>81</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
	<u>5</u>	= Total Cover																
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:														
1. <u>Xanthium strumarium</u>	5	Yes	FAC	___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
2. <u>Bidens tripartita</u>	1	No	OBL															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
	<u>6</u>	= Total Cover																
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?														
1. _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____																		
	<u>0</u>	= Total Cover																

Remarks: (Include photo numbers here or on a separate sheet.)
 Central portion of this old oxbow features is completely devoid of woody and herbaceous vegetation. Vegetation is confined for periphery of wetland boundary.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/1	90	2.5YR4/8	10	C	M	silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Multiple aerial images in combination with the lack of vegetation indicate this area remains inundated for extended periods of time. Northern end of oxbow has recently been blocked off from direct surface flow connection with large adjacent lake to the north.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W008C City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC05C-1D1
 Investigator(s): Rusty Yeager, Lincoln Oliver Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): excavated lake/pond hillslope Local relief (concave, convex, none): concave
 Slope (%): 12+ Lat: 39.401992 Long: -86.442095 Datum: NAD83
 Soil Map Unit Name: Water NWI classification: PUBGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: The hillslope above the toe of slope represented by this data point exhibits hydrophytic vegetation, but does not have sufficient hydrology to result in hydric soil features.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Fraxinus pennsylvanica</u>	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. <u>Liriodendron tulipifera</u>	10	No	FACU																																	
3. <u>Salix nigra</u>	15	Yes	OBL																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>45</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>30</u></td> <td>x 1 =</td> <td align="center"><u>30</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>35</u></td> <td>x 2 =</td> <td align="center"><u>70</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>32</u></td> <td>x 3 =</td> <td align="center"><u>96</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>10</u></td> <td>x 4 =</td> <td align="center"><u>40</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>107</u></td> <td>(A)</td> <td align="center"><u>236</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.21</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>30</u>	x 1 =	<u>30</u>	FACW species	<u>35</u>	x 2 =	<u>70</u>	FAC species	<u>32</u>	x 3 =	<u>96</u>	FACU species	<u>10</u>	x 4 =	<u>40</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>107</u>	(A)	<u>236</u> (B)	Prevalence Index = B/A = <u>2.21</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>30</u>	x 1 =	<u>30</u>																																	
FACW species	<u>35</u>	x 2 =	<u>70</u>																																	
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UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>107</u>	(A)	<u>236</u> (B)																																	
Prevalence Index = B/A = <u>2.21</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius) 1. <u>Acer negundo</u>	20	Yes	FAC	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <u>Acer saccharinum</u>	10	Yes	FACW																																	
3. <u>Cephalanthus occidentalis</u>	15	Yes	OBL																																	
4. <u>Ulmus americana</u>	5	No	FACW																																	
5. _____	_____	_____	_____																																	
<u>50</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <u>Toxicodendron radicans</u>	10	_____	FAC	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>10</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius) 1. <u>Toxicodendron radicans</u>	2	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>2</u> = Total Cover																																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Buttonbush was present on lower portion of hill slope with the plot just above toe of slope to wetland.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100					silt loam	
3-20	10YR4/6	100					sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:
 The hillslope that defines the wetland/pond boundary was artificially created therefore the surface soils on the hillslope do not represent natural native material. Soil on the hillslope do not stay saturated and therefore do not exhibit redoximorphic features.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Plot is on moderate steep hill slope approx. 3 feet in elevation above adjacent wetland boundary

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W008C City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC05C-1W1
 Investigator(s): Rusty Yeager, Lincoln Oliver Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): excavated lake/pond Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.402036 Long: -86.442310 Datum: NAD83
 Soil Map Unit Name Water NWI classification: PUBGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Vegetation diversity is limited on this seasonally exposed low profile island feature within this constructed lake/pond feature. Even during the dry season, surface/near surface saturation occurs and redoximorphic features are evident.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Acer saccharinum</u>	10	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. <u>Salix nigra</u>	40	Yes	OBL																																	
3. _____																																				
4. _____																																				
5. _____																																				
<u>50</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>55</u></td> <td>x 1 =</td> <td align="center"><u>55</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>65</u></td> <td>(A)</td> <td align="center"><u>75</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>1.15</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>55</u>	x 1 =	<u>55</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>65</u>	(A)	<u>75</u> (B)	Prevalence Index = B/A = <u>1.15</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>55</u>	x 1 =	<u>55</u>																																	
FACW species	<u>10</u>	x 2 =	<u>20</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>65</u>	(A)	<u>75</u> (B)																																	
Prevalence Index = B/A = <u>1.15</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u>Salix nigra</u>	5	Yes	OBL																																	
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
<u>5</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Justicia americana</u>	10	Yes	OBL																																	
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
<u>10</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____																																				
2. _____																																				
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Other areas on the small peninsular island have greater cover of water willow than that represented at this data point.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/1	95	7.5YR4/6	5	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 Strong indicators of a depleted matrix were evident throughout the entire upper 20 inches of the soil pedon due to extended periods of saturation/inundation.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Surface water present around the periphery of this vegetative island based on current water conditions. Under wet season conditions the island area can be inundated for extended period of time.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W009A City/County: Morgan Sampling Date: 10/20/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC06A-1D1
 Investigator(s): K. Lucier Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): flat
 Slope (%): 0-1 Lat: 39.403123 Long: -86.443431 Datum: GCS NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Recently disturbed habitat lacks hydrology and hydric soil indicators.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Populus deltoides</u>		Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>83</u> (A/B)																																
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td><td align="center"><u>0</u></td> <td>x 1 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td><td align="center"><u>0</u></td> <td>x 2 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td><td align="center"><u>0</u></td> <td>x 3 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td><td align="center"><u>0</u></td> <td>x 4 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td><td align="center"><u>0</u></td> <td>x 5 =</td><td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td><td align="center"><u>0</u></td> <td>(A)</td><td align="center"><u>0</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>#Num!</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>0</u>	(A)	<u>0</u> (B)	Prevalence Index = B/A = <u>#Num!</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>0</u>	x 2 =	<u>0</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>0</u>	(A)	<u>0</u> (B)																																	
Prevalence Index = B/A = <u>#Num!</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u>Fraxinus pennsylvanica</u>		Yes	FACW																																	
2. <u>Populus deltoides</u>		Yes	FAC																																	
3. <u>Salix interior</u>		Yes	FACW																																	
4. _____																																				
5. _____																																				
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Symphytichum lanceolatum</u>		Yes	FAC																																	
2. <u>Solidago altissima</u>		Yes	FACU																																	
3. <u>Medicago sativa</u>		No	FACU																																	
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
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Vine Stratum (Plot Size: <u>15'</u> radius)																																				
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Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR4/4	100						

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils ³ <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)
--	--	---

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations:

Surface Water Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u> X </u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W009A City/County: Morgan Sampling Date: 10/20/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC06A-1W1
 Investigator(s): K. Lucier Section, Township, Range: Sec 8-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.403227 Long: -86.443461 Datum: GCS NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point represents vegetated shelf of linear excavated feature adjacent to fields.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>50</u> (A)</td> <td><u>100</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>50</u> (A)	<u>100</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>50</u>	x 2 = <u>100</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>50</u> (A)	<u>100</u> (B)																			
Prevalence Index = B/A = <u>2.00</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. <u>Fraxinus pennsylvanica</u>	5	Yes	FACW																	
2. <u>Salix interior</u>	10	Yes	FACW																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>15</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <u>Phalaris arundinacea</u>	25	Yes	FACW																	
2. <u>Juncus torreyi</u>	10	Yes	FACW																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>35</u> = Total Cover																				
Vine Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)
 Also included Carex sp.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/1	95	10YR4/6	5	C	M	silty clay loam	very dry

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W021A City/County: Morgan Sampling Date: 04/06/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC16A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 9, T11N, R1E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 5% Lat: 39.40639 Long: -86.421373 Datum: GCS NAD83
 Soil Map Unit Name Martinsville loam, 0 to 2 percent slopes NWI classification: PSS1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>This plot is in a mowed urban area.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
0 = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">0</td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">0</td> <td>x 2 =</td> <td align="center">0</td> </tr> <tr> <td>FAC species</td> <td align="center">0</td> <td>x 3 =</td> <td align="center">0</td> </tr> <tr> <td>FACU species</td> <td align="center">40</td> <td>x 4 =</td> <td align="center">160</td> </tr> <tr> <td>UPL species</td> <td align="center">60</td> <td>x 5 =</td> <td align="center">300</td> </tr> <tr> <td>Column Totals:</td> <td align="center">100</td> <td>(A)</td> <td align="center">460 (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.60</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	0	x 2 =	0	FAC species	0	x 3 =	0	FACU species	40	x 4 =	160	UPL species	60	x 5 =	300	Column Totals:	100	(A)	460 (B)	Prevalence Index = B/A = <u>4.60</u>			
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	0	x 2 =	0																																	
FAC species	0	x 3 =	0																																	
FACU species	40	x 4 =	160																																	
UPL species	60	x 5 =	300																																	
Column Totals:	100	(A)	460 (B)																																	
Prevalence Index = B/A = <u>4.60</u>																																				
Sapling/Shrub Stratum (Plot Size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																																				
Herb Stratum (Plot Size: _____) 1. <i>Festuca sp.</i> 60 Yes UPL 2. <i>Trifolium pratense</i> 35 Yes FACU 3. <i>Taraxacum officinale</i> 5 No FACU 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																																				
Vine Stratum (Plot Size: _____) 1. _____ 2. _____ _____ = Total Cover																																				

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 ___ 2-Dominance Test is >50%
 ___ 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR4/3	100					silt loam	
5-24	10YR6/1	65	35	M	C		sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W021A City/County: Morgan Sampling Date: 10/19/2015
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: IC16A-1W1
 Investigator(s): K. Lucier, G. Quigg Section, Township, Range: Sec 9-T11N-R1E
 Landform (hillslope, terrace, etc.): excavated depression Local relief (concave, convex, none): concave
 Slope (%): 0-6 Lat: 39.474183 Long: -86.369632 Datum: GCS NAD83
 Soil Map Unit Name Martinsville loam, 0 to 2 percent slopes NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Scirpus cyperinus</i>	25	Yes	OBL	
2. <i>Carex sp.</i>	25	Yes	FACW	
3. <i>Typha angustifolia</i>	5	No	OBL	
4. <i>Packera glabella</i>	5	No	FACW	
5. <i>Acer saccharum</i>	5	No	FACU	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
65 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>65</u> (A)	<u>110</u> (B)

Prevalence Index = B/A = 1.69

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR2/1	100					silty clay loam	
6-10	10YR4/1	90	10YR3/6	10	C	M	silt loam	
10-18	10YR4/1	50	10YR4/6	50	C	M	loamy sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W026A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC22A-1D1
 Investigator(s): K. Lucier Section, Township, Range: Sec 3-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.413567 Long: -86.411022 Datum: GCS NAD83
 Soil Map Unit Name Rensselaer clay loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Fraxinus pennsylvanica</i>	10	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>83</u> (A/B)																																
2. <i>Populus deltoides</i>	10	Yes	FAC																																	
3. <i>Salix nigra</i>	25	Yes	OBL																																	
4. _____																																				
5. _____																																				
	<u>45</u>	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>25</u></td> <td>x 1 =</td> <td align="center"><u>25</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>50</u></td> <td>x 3 =</td> <td align="center"><u>150</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>50</u></td> <td>x 4 =</td> <td align="center"><u>200</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>135</u></td> <td align="center">(A)</td> <td align="center"><u>395</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.93</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>25</u>	x 1 =	<u>25</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>50</u>	x 3 =	<u>150</u>	FACU species	<u>50</u>	x 4 =	<u>200</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>135</u>	(A)	<u>395</u> (B)	Prevalence Index = B/A = <u>2.93</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>25</u>	x 1 =	<u>25</u>																																	
FACW species	<u>10</u>	x 2 =	<u>20</u>																																	
FAC species	<u>50</u>	x 3 =	<u>150</u>																																	
FACU species	<u>50</u>	x 4 =	<u>200</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>135</u>	(A)	<u>395</u> (B)																																	
Prevalence Index = B/A = <u>2.93</u>																																				
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
	<u>0</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <i>Solidago altissima</i>	50	Yes	FACU	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <i>Symphytichum lanceolatum</i>	20	Yes	FAC																																	
3. <i>Poa pratensis</i>	20	Yes	FAC																																	
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	<u>90</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	<u>0</u>	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR2/2	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

Restrictive Layer (If observed):	Hydric Soil present?
Type: <u>hard packed soil</u> Depth (inches): <u>12 inches</u>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations:	Wetland Hydrology Present?
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W026A City/County: Morgan Sampling Date: 10/16/2015
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: IC22A-1W1
 Investigator(s): K. Lucier Section, Township, Range: Sec 3-T11N-R1E
 Landform (hillslope, terrace, etc.): broad valley Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.413311 Long: -86.410829 Datum: GCS NAD83
 Soil Map Unit Name Rensselaer clay loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix interior</u>	15	Yes	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
15 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Persicaria maculosa</u>	50	Yes	FACW	
2. <u>Echinochloa muricata</u>	40	Yes	OBL	
3. <u>Typha angustifolia</u>	25	Yes	OBL	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
115 = Total Cover				
Vine Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>65</u>	x 1 = <u>65</u>
FACW species <u>65</u>	x 2 = <u>130</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130</u> (A)	<u>195</u> (B)

Prevalence Index = B/A = 1.50

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100					silty clay loam	
3-14	10YR4/1	80	10YR5/8	20	C	M	silty clay loam	
14-18	10YR2/1	95	10YR3/6	5	C	PL	sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 14	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W028A City/County: Morgan Sampling Date: 10/28/2015
 Applicant/Owner: INDOT/Lochum Mueller State: Indiana Sampling Point: IC32A-1D1
 Investigator(s): Jeremy Kiefner, Matt Riehle Section, Township, Range: Sec 2-T11N-R1E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): concave
 Slope (%): 2-3 Lat: 39.422963 Long: -86.397417 Datum: NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Point represents non-wetland conditions of roadside right-of-way between pavement and ditch.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Schedonorus arundinaceus</u>	<u>100</u>	<u>Yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u>	(A) <u>400</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR3/1	98	10YR3/4	2	C	M	silt loam	
8-10	10YR2/1						silt loam	
10-24	10YR2/1	95	10YR3/4	5	C	M	sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>22</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>14</u>	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W028A City/County: Morgan Sampling Date: 10/28/2015
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: IC32A-1W1
 Investigator(s): Jeremy Kiefner, Matt Riehle Section, Township, Range: Sec 2-T11N-R1E
 Landform (hillslope, terrace, etc.): hillside ditch along road Local relief (concave, convex, none): concave
 Slope (%): 3.5 Lat: 39.422989 Long: -86.397419 Datum: NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>5' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>5' radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5' radius</u>)				
1. <i>Leersia oryzoides</i>	50	Yes	OBL	
2. <i>Eleocharis sp.</i>	20	Yes		
3. <i>Typha latifolia</i>	10	No	OBL	
4. <i>Nasturtium officinale</i>	10	No	OBL	
5. <i>Carex sp.</i>	5	No	FACW	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
95 = Total Cover				
Vine Stratum (Plot Size: <u>5' radius</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>70</u>	x 1 =	<u>70</u>
FACW species	<u>5</u>	x 2 =	<u>10</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>75</u> (A)		<u>80</u> (B)

Prevalence Index = B/A = 1.07

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR3/1	95	10YR4/4	5	C	M	sandy loam	
6-24	10YR4/1	80	10YR4/4	20	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> True Aquatic Plants (B14)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): 3

Water Table Present? Yes No Depth (inches): _____

Saturation Present? Yes No Depth (inches): _____

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W037A City/County: Morgan Sampling Date: 04/07/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL03A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 26, T12N, R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): flat
 Slope (%): 1% Lat: 39.444677 Long: -86.386898 Datum: GCS NAD83
 Soil Map Unit Name Elkinsville silt loam, 6 to 12 percent slopes NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>100</u></td> <td>x 5 = <u>500</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>500</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>5.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>100</u>	x 5 = <u>500</u>	Column Totals: <u>100</u> (A)	<u>500</u> (B)	Prevalence Index = B/A = <u>5.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>100</u>	x 5 = <u>500</u>																			
Column Totals: <u>100</u> (A)	<u>500</u> (B)																			
Prevalence Index = B/A = <u>5.00</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <u>Festuca sp.</u>	<u>100</u>	<u>Yes</u>	<u>UPL</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 ___ 2-Dominance Test is >50%
 ___ 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/2						silt loam	
4-20	10YR5/6	60	10YR5/2	40			silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:
Access road gravel encountered at 4 inches.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W037A City/County: Morgan Sampling Date: 04/06/2017
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: CL03A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 26, T12N, R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): flat
 Slope (%): 1% Lat: 39.444666 Long: -86.386939 Datum: GCS NAD83
 Soil Map Unit Name Elkinsville silt loam, 6 to 12 percent slopes, eroded NWI classification: PEM1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																																																																																				
1. <u>Fraxinus pennsylvanica</u>	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																																																																																				
2. _____	_____	_____	_____																																																																																																					
3. _____	_____	_____	_____																																																																																																					
4. _____	_____	_____	_____																																																																																																					
5. _____	_____	_____	_____																																																																																																					
<u>20</u> = Total Cover				Prevalence Index worksheet:																																																																																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																																																																																								
1. <u>Salix interior</u>	30	Yes	FACW		<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>150</u></td> <td>x 2 =</td> <td align="center"><u>300</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>150</u></td> <td align="center">(A)</td> <td align="center"><u>300</u> (B)</td> </tr> <tr> <td align="center" colspan="4"><u>30</u> = Total Cover</td> <td align="center">Prevalence Index = B/A = <u>2.00</u></td> </tr> <tr> <td colspan="4">Herb Stratum (Plot Size: <u>5'</u> radius)</td> <td rowspan="10">Hydrophytic Vegetation Indicators:</td> </tr> <tr> <td>1. <u>Equisetum hyemale</u></td> <td align="center">100</td> <td align="center">Yes</td> <td align="center">FACW</td> </tr> <tr><td>2. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>3. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>7. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>8. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>9. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>10. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr> <td align="right" colspan="4"><u>100</u> = Total Cover</td> <td rowspan="3"> Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> </td> </tr> <tr> <td colspan="4">Vine Stratum (Plot Size: <u>30'</u> radius)</td> </tr> <tr> <td>1. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2. _____</td> <td>_____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td align="right" colspan="4"><u>0</u> = Total Cover</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>150</u>	x 2 =	<u>300</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>150</u>	(A)	<u>300</u> (B)	<u>30</u> = Total Cover				Prevalence Index = B/A = <u>2.00</u>	Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators:	1. <u>Equisetum hyemale</u>	100	Yes	FACW	2. _____	_____	_____	_____	3. _____	_____	_____	_____	4. _____	_____	_____	_____	5. _____	_____	_____	_____	6. _____	_____	_____	_____	7. _____	_____	_____	_____	8. _____	_____	_____	_____	9. _____	_____	_____	_____	10. _____	_____	_____	_____	<u>100</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Vine Stratum (Plot Size: <u>30'</u> radius)				1. _____	_____	_____	_____	2. _____	_____	_____	_____	<u>0</u> = Total Cover			
Total % Cover of:		Multiply by:																																																																																																						
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FACW species	<u>150</u>	x 2 =	<u>300</u>																																																																																																					
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2. _____	_____	_____	_____																																																																																																					
3. _____	_____	_____	_____																																																																																																					
4. _____	_____	_____	_____																																																																																																					
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8. _____	_____	_____	_____																																																																																																					
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1. _____	_____	_____	_____																																																																																																					
2. _____	_____	_____	_____																																																																																																					
<u>0</u> = Total Cover																																																																																																								

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL03A-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100					silt loam	
3-20	10YR4/2	95	10YR4/6	5	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>9</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Groun water movement from SR37 to access road ditch. Ditch included in wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W040A City/County: Morgan Sampling Date: 11/3/2016
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL06A-1D1
 Investigator(s): L. Barnhart, A. Grisel Section, Township, Range: Sec 26-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): convex
 Slope (%): 6-12 Lat: 39.448905 Long: -86.386854 Datum: GCS NAD83
 Soil Map Unit Name Wakeland silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located approximately 68 feet west of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>5</u></td> <td>x 2 =</td> <td align="center"><u>10</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>80</u></td> <td>x 4 =</td> <td align="center"><u>320</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>15</u></td> <td>x 5 =</td> <td align="center"><u>75</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>405</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.05</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>5</u>	x 2 =	<u>10</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>80</u>	x 4 =	<u>320</u>	UPL species	<u>15</u>	x 5 =	<u>75</u>	Column Totals:	<u>100</u>	(A)	<u>405</u> (B)	Prevalence Index = B/A = <u>4.05</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>5</u>	x 2 =	<u>10</u>																																	
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FACU species	<u>80</u>	x 4 =	<u>320</u>																																	
UPL species	<u>15</u>	x 5 =	<u>75</u>																																	
Column Totals:	<u>100</u>	(A)	<u>405</u> (B)																																	
Prevalence Index = B/A = <u>4.05</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <i>Solidago canadensis</i>	80	Yes	FACU																																	
2. <i>Securigeria varia</i>	15	No	UPL																																	
3. <i>Phalaris arundinacea</i>	5	No	FACW																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>100</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/3	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W040A City/County: Morgan Sampling Date: 11/3/2016
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL06A-1W1
 Investigator(s): L. Barnhart, A. Grisel Section, Township, Range: Sec 26-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 6-12 Lat: 39.449382 Long: -86.38632 Datum: GCS NAD83
 Soil Map Unit Name Wakeland silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located approximately 48 feet west of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Phalaris arundinacea</i>	90	Yes	FACW	
2. <i>Eupatorium perfoliatum</i>	10	No	OBL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	<u>10</u>	x 1 = <u>10</u>
FACW species	<u>90</u>	x 2 = <u>180</u>
FAC species	<u>0</u>	x 3 = <u>0</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>100</u> (A)	<u>190</u> (B)
Prevalence Index = B/A = <u>1.90</u>		

Hydrophytic Vegetation Indicators:
 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR3/3	80	10YR5/6	20	C	PL	clay loam	distinct redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Muck Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils ³</p> <p><input type="checkbox"/> Coast Prairie Redox (A16)</p> <p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other Soil (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
<p><input type="checkbox"/> Water Stained Leaves (B9)</p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	

<p>Field Observations:</p> <p>Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W041A City/County: Morgan County Sampling Date: 9/20/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL07A-1D1
 Investigator(s): R. Hook, C. Meador, A. Grisel Section, Township, Range: Sec 26-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 6-12 Lat: 39.453677 Long: -86.384022 Datum: GCS NAD 1983
 Soil Map Unit Name Parke silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This data point was taken on a slope in a mowed open field. This data point lacks indicators of a wetland and can be considered upland.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>5</u></td> <td>x 2 = <u>10</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>390</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.90</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>5</u>	x 2 = <u>10</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>390</u> (B)	Prevalence Index = B/A = <u>3.90</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>5</u>	x 2 = <u>10</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>390</u> (B)																			
Prevalence Index = B/A = <u>3.90</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Poa annua</i>	45	Yes	FACU																	
2. <i>Schedonorus arundinaceus</i>	40	Yes	FACU																	
3. <i>Trifolium pratense</i>	10	No	FACU																	
4. <i>Leersia virginica</i>	5	No	FACW																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR3/2	100					silty clay loam	
2-20	10YR4/4	60	10YR4/6	40	C	M	clay loam	Distinct redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data point has no indicators of hydric soils and can be considered upland.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 This data point lacks indicators of wetland hydrology and can be considered upland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W041A City/County: Morgan County Sampling Date: 9/20/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL07A-1W1
 Investigator(s): R. Hook, C. Meador, A. Grisel Section, Township, Range: Sec 26-T12N-R1E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): concave
 Slope (%): 6-12 Lat: 39.453378 Long: -86.384123 Datum: GCS NAD 1983
 Soil Map Unit Name Parke silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This data point was taken on a slope in a mowed open field. This site has hydrophytic vegetation, hydric soils, and wetland hydrology. This data point can be considered to be within a wetland.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>40</u></td> <td>x 1 = <u>40</u></td> </tr> <tr> <td>FACW species <u>49</u></td> <td>x 2 = <u>98</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>104</u> (A)</td> <td><u>183</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.76</u>	Total % Cover of:	Multiply by:	OBL species <u>40</u>	x 1 = <u>40</u>	FACW species <u>49</u>	x 2 = <u>98</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>104</u> (A)	<u>183</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>40</u>	x 1 = <u>40</u>																	
FACW species <u>49</u>	x 2 = <u>98</u>																	
FAC species <u>15</u>	x 3 = <u>45</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>104</u> (A)	<u>183</u> (B)																	
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Herb Stratum (Plot Size: <u>5'</u> radius)																		
1. <i>Carex lurida</i>	40	Yes	OBL															
2. <i>Leersia virginica</i>	34	Yes	FACW															
3. <i>Juncus tenuis</i>	15	No	FAC															
4. <i>Cyperus esculentus</i>	15	No	FACW															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
<u>104</u> = Total Cover																		
Vine Stratum (Plot Size: <u>30'</u> radius)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation [§] (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																		
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																		

Remarks: (Include photo numbers here or on a separate sheet.)
 This data point passes tests for hydrophytic vegetation and can be considered to be within a wetland.

SOIL

Sampling Point CL07A-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/2	60	10YR4/6	40	C	PL/M	silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:
 This data point meets the indicator status Depleted Matrix (F3) and can be considered to be within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 This data point has indicators of wetland hydrology and can be considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W046A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL24A-1D1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 26-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 12-18 Lat: 39.45551 Long: -86.381757 Datum: GCS NAD83
 Soil Map Unit Name Parke silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located approximately 120 feet west of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>400</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>400</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>100</u>	x 4 = <u>400</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>400</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Solidago canadensis</i>	80	Yes	FACU																	
2. <i>Schedonorus arundinaceus</i>	20	Yes	FACU																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL24A-1D1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/2	100					clay loam	
4-20	10YR4/4	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W046A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL24A-1W1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 26-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 12-18 Lat: 39.455549 Long: -86.381739 Datum: GCS NAD83
 Soil Map Unit Name Parke silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point was taken approximately 112 feet west of SR 37 in a depressional area.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>100</u></td> <td>x 2 =</td> <td align="center"><u>200</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>200</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>100</u>	x 2 =	<u>200</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>100</u>	x 2 =	<u>200</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>200</u> (B)																																	
Prevalence Index = B/A = <u>2.00</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <i>Phalaris arundinacea</i> 80 Yes FACW 2. <i>Impatiens capensis</i> 10 No FACW 3. <i>Cyperus esculentus</i> 10 No FACW 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL24A-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10RY4/3	80	7.5YR4/6	20	RM	PL/M	clay loam	
6-20	10YR4/4	80	7.5YR4/6	20	RM	PL/M	clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No _____
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W047A City/County: Morgan County Sampling Date: 9/20/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL10A-1D1
 Investigator(s): R. Hook, C. Meador, A. Grisel Section, Township, Range: Sec 25-T12N-R1E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____
 Slope (%): 0-1% Lat: _____ Long: _____ Datum: GCS NAD 1983
 Soil Map Unit Name Banlic silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain Remarks.)
 Are Vegetation _____, Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No: _____
 Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: This data point is taken in the maintained residential yard with signs of active drainage. This data point meets hydric soils but lacks wetland hydrology and hydrophytic vegetation. It can be considered upland.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																									
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																								
2. _____	_____	_____	_____																									
3. _____	_____	_____	_____																									
4. _____	_____	_____	_____																									
5. _____	_____	_____	_____																									
0 = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="width:25%; text-align: center;">Total % Cover of:</td> <td style="width:25%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td style="text-align: center;">x 1 = 0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td style="text-align: center;">x 2 = 0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td style="text-align: center;">x 3 = 0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">25</td> <td style="text-align: center;">x 4 = 100</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td style="text-align: center;">x 5 = 0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">25 (A)</td> <td style="text-align: center;">100 (B)</td> </tr> <tr> <td colspan="3" style="text-align: center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>		Total % Cover of:	Multiply by:	OBL species	0	x 1 = 0	FACW species	0	x 2 = 0	FAC species	0	x 3 = 0	FACU species	25	x 4 = 100	UPL species	0	x 5 = 0	Column Totals:	25 (A)	100 (B)	Prevalence Index = B/A = <u>4.00</u>		
	Total % Cover of:	Multiply by:																										
OBL species	0	x 1 = 0																										
FACW species	0	x 2 = 0																										
FAC species	0	x 3 = 0																										
FACU species	25	x 4 = 100																										
UPL species	0	x 5 = 0																										
Column Totals:	25 (A)	100 (B)																										
Prevalence Index = B/A = <u>4.00</u>																												
Sapling/Shrub Stratum (Plot Size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																												
Herb Stratum (Plot Size: _____) 1. <i>Poa annua</i> 15 Yes FACU 2. <i>Glechoma hederacea</i> 10 Yes FACU 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																												
Vine Stratum (Plot Size: _____) 1. _____ 2. _____ _____ = Total Cover																												

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 ___ 2-Dominance Test is >50%
 ___ 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL10A-1D1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/2	80	10YR4/4	20	C	D	silty clay loam	distinct redox concentrations
4-20	10YR4/2	70	10YR4/6	30	C	M	silty clay loam	prominent redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input checked="" type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data point meets three hydric soil indicators but lacks hydrophytic vegetation and wetland hydrology. It can be considered upland.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 This data point lacks wetland hydrology and is actively drained. It can be considered upland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W047A City/County: Morgan County Sampling Date: 9/20/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL10A-1W1
 Investigator(s): R. Hook, C. Meador, A. Grisel Section, Township, Range: Sec 25-T12N-R1E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave
 Slope (%): 0-1% Lat: 39.4564 Long: -86-3808 Datum: GCS NAD 1983
 Soil Map Unit Name Banlic silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain Remarks.)
 Are Vegetation _____, Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No: _____
 Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Hydric Soils Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks			

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
1. _____	_____	_____	_____		Prevalence Index worksheet: <table border="0"> <tr> <td colspan="2">Total % Cover of:</td> <td colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td><u>35</u></td> <td>x 1 =</td> <td><u>35</u></td> </tr> <tr> <td>FACW species</td> <td><u>55</u></td> <td>x 2 =</td> <td><u>110</u></td> </tr> <tr> <td>FAC species</td> <td><u>5</u></td> <td>x 3 =</td> <td><u>15</u></td> </tr> <tr> <td>FACU species</td> <td><u>5</u></td> <td>x 4 =</td> <td><u>20</u></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>100</u></td> <td>(A)</td> <td><u>180</u> (B)</td> </tr> <tr> <td colspan="4">Prevalence Index = B/A = <u>1.80</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>35</u>	x 1 =	<u>35</u>	FACW species	<u>55</u>	x 2 =	<u>110</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u>5</u>	x 4 =	<u>20</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>180</u> (B)	Prevalence Index = B/A = <u>1.80</u>		
Total % Cover of:		Multiply by:																																		
OBL species	<u>35</u>	x 1 =	<u>35</u>																																	
FACW species	<u>55</u>	x 2 =	<u>110</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u>5</u>	x 4 =	<u>20</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>180</u> (B)																																	
Prevalence Index = B/A = <u>1.80</u>																																				
_____ = Total Cover																																				
Sapling/Shrub Stratum (Plot Size: _____)																																				
1. <i>Populus heterophylla</i>	<u>5</u>	Yes	OBL																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
_____ = Total Cover																																				
Herb Stratum (Plot Size: _____)																																				
1. <i>Euthamia graminifolia</i>	<u>25</u>	Yes	FACW																																	
2. <i>Typha angustifolia</i>	<u>20</u>	Yes	OBL																																	
3. <i>Bidens frondosa</i>	<u>15</u>	Yes	FACW																																	
4. <i>Persicaria pensylvanica</i>	<u>10</u>	No	FACW																																	
5. <i>Marrubium vulgare</i>	<u>5</u>	No	FAC																																	
6. <i>Euthamia caroliniana</i>	<u>5</u>	No	FACW																																	
7. <i>Eupatorium perfoliatum</i>	<u>5</u>	No	OBL																																	
8. <i>Carex lurida</i>	<u>5</u>	No	OBL																																	
9. <i>Ambrosia artemisiifolia</i>	<u>5</u>	No	FACU																																	
10. _____	_____	_____	_____																																	
_____ = Total Cover																																				
Vine Stratum (Plot Size: _____)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
_____ = Total Cover																																				

Hydrophytic Vegetation Indicators:
 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No _____

Remarks: (Include photo numbers here or on a separate sheet.)
 The data point meets hydrophytic vegetation and can be considered to be within a wetland.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100					silty clay loam	
3-12	10YR4/2	70	10YR4/6	30	C	M	silty clay loam	prominent redox concentrations
12-20	10YR5/1	60	10YR4/6	40	C	M	silty clay loam	prominent redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
This data point meets the indicators Depleted Below Dark Surface (A11) and Depleted Matrix (F3) and can be considered within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Stunted or Stressed Plants (D1)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
This data point meets indicators for wetland hydrology and can be considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W048A City/County: Morgan County Sampling Date: 9/20/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL17A-1W1
 Investigator(s): R. Hook, C. Meador, A. Grisel Section, Township, Range: Sec 24-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.460344 Long: -86.377422 Datum: GCS NAD 1983
 Soil Map Unit Name Wakeland silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This data point is for the emergent portion of wetland complex that include open water and forested wetland areas. This wetland extends east from the edge of the pond to the edge of the right of way for SR 37. This data point can be considered to be withi	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																		
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																		
2. _____	_____	_____	_____																																			
3. _____	_____	_____	_____																																			
4. _____	_____	_____	_____																																			
5. _____	_____	_____	_____																																			
0 = Total Cover				Prevalence Index worksheet:																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																						
1. _____	_____	_____	_____		<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>60</u></td> <td>x 1 =</td> <td align="center"><u>60</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>40</u></td> <td>x 2 =</td> <td align="center"><u>80</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>140</u> (B)</td> </tr> <tr> <td align="center" colspan="4">0 = Total Cover</td> <td>Prevalence Index = B/A = <u>1.40</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>60</u>	x 1 =	<u>60</u>	FACW species	<u>40</u>	x 2 =	<u>80</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>140</u> (B)	0 = Total Cover				Prevalence Index = B/A = <u>1.40</u>
Total % Cover of:		Multiply by:																																				
OBL species	<u>60</u>	x 1 =	<u>60</u>																																			
FACW species	<u>40</u>	x 2 =	<u>80</u>																																			
FAC species	<u>0</u>	x 3 =	<u>0</u>																																			
FACU species	<u>0</u>	x 4 =	<u>0</u>																																			
UPL species	<u>0</u>	x 5 =	<u>0</u>																																			
Column Totals:	<u>100</u>	(A)	<u>140</u> (B)																																			
0 = Total Cover				Prevalence Index = B/A = <u>1.40</u>																																		
Herb Stratum (Plot Size: <u>5'</u> radius)																																						
1. <u>Leersia oryzoides</u>	30	Yes	OBL																																			
2. <u>Impatiens capensis</u>	30	Yes	FACW																																			
3. <u>Typha angustifolia</u>	10	No	OBL																																			
4. <u>Lemna aequinoctialis</u>	10	No	OBL																																			
5. <u>Helenium autumnale</u>	5	No	FACW																																			
6. <u>Glyceria striata</u>	5	No	OBL																																			
7. <u>Bidens frondosa</u>	5	No	FACW																																			
8. <u>Acorus calamus</u>	5	No	OBL																																			
9. _____	_____	_____	_____																																			
10. _____	_____	_____	_____																																			
100 = Total Cover				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																		
Vine Stratum (Plot Size: <u>30'</u> radius)																																						
1. _____	_____	_____	_____																																			
2. _____	_____	_____	_____																																			
0 = Total Cover																																						

Remarks: (Include photo numbers here or on a separate sheet.)
 This data point meets hydrophytic vegetation and can be considered to be within a wetland.

SOIL

Sampling Point CL17A-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR2/2	100					clay loam	mucky

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input checked="" type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 This data point meets the indicator status of Loamy Mucky Mineral (F1) and can be considered to be within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0.5</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Saturation was present at or near the surface. This data point has indicators of wetland hydrology and can be considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W048B City/County: Morgan Sampling Date: 9/20/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: CL17B-1W1
 Investigator(s): R. Hook, A. Grisel, C. Meador Section, Township, Range: Sec 24-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.460522 Long: -86.377628 Datum: GCS NAD83
 Soil Map Unit Name: Wakeland silt loam NWI classification: PUBGx

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Data point is taken for a wetland complex. This data point is for the forested portion of the complex that extends north from a pond. This point is located approximately 193 feet west of SR 37.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <i>Fraxinus pennsylvanica</i>	10	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>10</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>25</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>210</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.33</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>25</u>	x 3 = <u>75</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>90</u> (A)	<u>210</u> (B)	Prevalence Index = B/A = <u>2.33</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>5</u>	x 1 = <u>5</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>25</u>	x 3 = <u>75</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>90</u> (A)	<u>210</u> (B)																			
Prevalence Index = B/A = <u>2.33</u>																				
Sapling/Shrub Stratum (Plot Size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: _____)																				
1. <i>Impatiens capensis</i>	30	Yes	FACW																	
2. <i>Toxicodendron radicans</i>	25	Yes	FAC																	
3. <i>Helenium autumnale</i>	15	No	FACW																	
4. <i>Solidago altissima</i>	5	No	FACU																	
5. <i>Lobelia siphilitica</i>	5	No	OBL																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>80</u> = Total Cover																				
Vine Stratum (Plot Size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL17B-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR3/1	80	2.5YR4/6	20	C	M	clay loam	prominent redox
8-20	10YR4/1	70	2.5YR4/6	30	C	M/PL	clay loam	prominent redox
8-20	10YR4/1	70	2.5YR4/6	30	C	PL/M	clay loam	prominent redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators:</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5)</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 5 cm Muck Peat or Peat (S3)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils ³</p> <p><input type="checkbox"/> Coast Prairie Redox (A16)</p> <p><input type="checkbox"/> Dark Surface (S7)</p> <p><input type="checkbox"/> Iron-Manganese Masses (F12)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other Soil (Explain in Remarks)</p>
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³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<p>Restrictive Layer (if observed):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>	<p><input type="checkbox"/> Water Stained Leaves (B9)</p> <p><input type="checkbox"/> Aquatic Fauna (B13)</p> <p><input type="checkbox"/> True Aquatic Plants (B14)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Gauge or Well Data (D9)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input checked="" type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p>
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<p>Field Observations:</p> <p>Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W048D City/County: Morgan Sampling Date: 8/25/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL17D-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: Sec 24-T12N-R1E
 Landform (hillslope, terrace, etc.): roadside ditch Local relief (concave, convex, none): concave
 Slope (%): 1-2 Lat: 39.459937 Long: -86.377373 Datum: GCS NAD83
 Soil Map Unit Name: Wakeland silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>92</u></td> <td>x 1 = <u>92</u></td> </tr> <tr> <td>FACW species <u>8</u></td> <td>x 2 = <u>16</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>108</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.08</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>92</u>	x 1 = <u>92</u>	FACW species <u>8</u>	x 2 = <u>16</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>108</u> (B)	Prevalence Index = B/A = <u>1.08</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>92</u>	x 1 = <u>92</u>																			
FACW species <u>8</u>	x 2 = <u>16</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u> (A)	<u>108</u> (B)																			
Prevalence Index = B/A = <u>1.08</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Leersia oryzoides</i>	90	Yes	OBL																	
2. <i>Phalaris arundinacea</i>	8	No	FACW																	
3. <i>Typha latifolia</i>	2	No	OBL																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR3/2	100					silt loam	
7-20	10YR4/1	50	10YR4/4	50	C	M	loamy sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>18</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W053A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL16A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 10% Lat: 39.474106 Long: -86.369813 Datum: GCS NAD83
 Soil Map Unit Name Chetwynd loam, 18 to 80% slopes NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>Carya sp.</u>	15	Yes	UPL	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>14</u> (A/B)																
2. <u>Fagus grandifolia</u>	10	Yes	FACU																	
3. <u>Fraxinus pennsylvanica</u>	20	Yes	FACW																	
4. <u>Quercus rubra</u>	15	Yes	FACU																	
5. _____																				
	<u>60</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>20</u></td> <td>x 5 = <u>100</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>340</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>3.78</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>20</u>	x 5 = <u>100</u>	Column Totals: <u>90</u> (A)	<u>340</u> (B)	Prevalence Index = B/A = <u>3.78</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>20</u>	x 2 = <u>40</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>50</u>	x 4 = <u>200</u>																			
UPL species <u>20</u>	x 5 = <u>100</u>																			
Column Totals: <u>90</u> (A)	<u>340</u> (B)																			
Prevalence Index = B/A = <u>3.78</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																
1. <u>Lonicera tatarica</u>	10	Yes	FACU																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
	<u>10</u>	= Total Cover																		
Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																
1. <u>Claytonia virginica</u>	15	Yes	FACU																	
2. <u>Polystichum acrostichoides</u>	5	Yes	UPL																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
	<u>20</u>	= Total Cover																		
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____																				
2. _____																				
	<u>0</u>	= Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/1						silty clay loam	
5-14	10YR4/1	85	5YR4/6	15	M	C	silty clay loam	
14-20	10YR5/1	85	5YR4/6	15	M	C	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>19</u> Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W053A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL16A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave
 Slope (%): .5% Lat: 39.474183 Long: -86.369632 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam, Chetwynd loam, 18-80% slopes NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Fraxinus pennsylvanica</u>	10	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>10</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>95</u></td> <td>x 2 =</td> <td align="center"><u>190</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>95</u></td> <td>(A)</td> <td align="center"><u>190</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>95</u>	x 2 =	<u>190</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>95</u>	(A)	<u>190</u> (B)	Prevalence Index = B/A = <u>2.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>95</u>	x 2 =	<u>190</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>95</u>	(A)	<u>190</u> (B)																																	
Prevalence Index = B/A = <u>2.00</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Cinna arundinacea</u>	60	Yes	FACW																																	
2. <u>Lysimachia nummularia</u>	20	Yes	FACW																																	
3. <u>Packera aurea</u>	5		FACW																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>85</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 ___ 2-Dominance Test is >50%
 ___ 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR3/1	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
Soils showed depletions on wetland fringe. Soils were 10YR3/1 in the plot area (near the center of the wetland) and were recorded as such. Soils are considered hydric and the sampled area is deemed a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>19</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W054A City/County: Morgan Sampling Date: 04/04/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL15A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat
 Slope (%): .5% Lat: 39.474678 Long: -86.369367 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>Fraxinus pennsylvanica</u>	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67</u> (A/B)																
2. <u>Juglans nigra</u>	10	Yes	FACU																	
3. <u>Platanus occidentalis</u>	10	Yes	FACW																	
4. <u>Ulmus americana</u>	10	Yes	FACW																	
5. _____																				
	<u>50</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>74</u></td> <td>x 2 = <u>148</u></td> </tr> <tr> <td>FAC species <u>37</u></td> <td>x 3 = <u>111</u></td> </tr> <tr> <td>FACU species <u>37</u></td> <td>x 4 = <u>148</u></td> </tr> <tr> <td>UPL species <u>15</u></td> <td>x 5 = <u>75</u></td> </tr> <tr> <td>Column Totals: <u>163</u> (A)</td> <td><u>482</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.96</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>74</u>	x 2 = <u>148</u>	FAC species <u>37</u>	x 3 = <u>111</u>	FACU species <u>37</u>	x 4 = <u>148</u>	UPL species <u>15</u>	x 5 = <u>75</u>	Column Totals: <u>163</u> (A)	<u>482</u> (B)	Prevalence Index = B/A = <u>2.96</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>74</u>	x 2 = <u>148</u>																			
FAC species <u>37</u>	x 3 = <u>111</u>																			
FACU species <u>37</u>	x 4 = <u>148</u>																			
UPL species <u>15</u>	x 5 = <u>75</u>																			
Column Totals: <u>163</u> (A)	<u>482</u> (B)																			
Prevalence Index = B/A = <u>2.96</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. <u>Acer negundo</u>	2	Yes	FAC																	
2. <u>Lonicera tatarica</u>	15	Yes	FACU																	
3. <u>Rosa multiflora</u>	5	Yes	FACU																	
4. _____																				
5. _____																				
	<u>22</u>	= Total Cover																		
Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																
1. <u>Sanicula odorata</u>	30	Yes	FAC																	
2. <u>Phalaris arundinacea</u>	30	Yes	FACW																	
3. <u>Symphotrichum sp.</u>	10		UPL																	
4. <u>Viola sororia</u>	5		FAC																	
5. <u>Stellaria sp.</u>	5		UPL																	
6. <u>Phlox divaricata</u>	5		FACU																	
7. <u>Mertensia virginica</u>	2		FACW																	
8. <u>Lysimachia nummularia</u>	2		FACW																	
9. <u>Galium aparine</u>	2		FACU																	
10. _____																				
	<u>91</u>	= Total Cover																		
Vine Stratum (Plot Size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																
1. _____																				
2. _____																				
	<u>0</u>	= Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL15A-1D1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/3	100					sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Plot was taken in floodplain several feet above floodplain.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W054A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL15A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave
 Slope (%): .5% Lat: 39.474853 Long: -86.369324 Datum: GCS NAD83
 Soil Map Unit Name: Genesee silt loam NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u>Fraxinus pennsylvanica</u>	20	Yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>20</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>100</u></td> <td>x 2 =</td> <td align="center"><u>200</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>200</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>100</u>	x 2 =	<u>200</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>100</u>	x 2 =	<u>200</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>200</u> (B)																																	
Prevalence Index = B/A = <u>2.00</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Phalaris arundinacea</u>	45	Yes	FACW																																	
2. <u>Lysimachia nummularia</u>	35	Yes	FACW																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>80</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR4/2	100					silty clay loam	
7-20	10Yr4/2	95	5YR4/4	5	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
No profile photo.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W055A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL14A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 8% Lat: 39.474185 Long: -86.368453 Datum: GCS NAD83
 Soil Map Unit Name: Genessee silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																													
1. <u>Acer saccharum</u>	20	Yes	FACU	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																												
2. <u>Fagus grandifolia</u>	70	Yes	FACU																													
3. _____																																
4. _____																																
5. _____																																
	<u>90</u>	= Total Cover																														
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				Prevalence Index worksheet:																												
1. _____				<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>103</u></td> <td>x 4 =</td> <td align="center"><u>412</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>38</u></td> <td>x 5 =</td> <td align="center"><u>190</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>141</u></td> <td>(A)</td> <td align="center"><u>602</u> (B)</td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>103</u>	x 4 =	<u>412</u>	UPL species	<u>38</u>	x 5 =	<u>190</u>	Column Totals:	<u>141</u>	(A)	<u>602</u> (B)
Total % Cover of:		Multiply by:																														
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
FACW species	<u>0</u>	x 2 =	<u>0</u>																													
FAC species	<u>0</u>	x 3 =	<u>0</u>																													
FACU species	<u>103</u>	x 4 =	<u>412</u>																													
UPL species	<u>38</u>	x 5 =	<u>190</u>																													
Column Totals:	<u>141</u>	(A)	<u>602</u> (B)																													
2. _____																																
3. _____																																
4. _____																																
5. _____																																
	<u>0</u>	= Total Cover																														
Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators:																												
1. <u>Erythronium americanum</u>	15	Yes	UPL	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
2. <u>Dicentra cucullaria</u>	10	Yes	UPL																													
3. <u>Claytonia virginica</u>	10	Yes	FACU																													
4. <u>Stellaria pubera</u>	5	Yes	UPL																													
5. <u>Polystichum acrostichoides</u>	5	Yes	UPL																													
6. <u>Podophyllum peltatum</u>	3	Yes	FACU																													
7. <u>Erigenia bulbosa</u>	3	Yes	UPL																													
8. _____																																
9. _____																																
10. _____																																
	<u>51</u>	= Total Cover																														
Vine Stratum (Plot Size: <u>30'</u> radius)				Hydrophytic Vegetation Present?																												
1. _____				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																												
2. _____																																
	<u>0</u>	= Total Cover																														

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR5/4	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
8' above floodplain floor

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W055A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL14A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): footslope to floodplain Local relief (concave, convex, none): concave
 Slope (%): 1.5% Lat: 39.474207 Long: -86.36836 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: PFO1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:															
1. <u>Acer rubrum</u>	20	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)															
2. _____	_____	_____	_____																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
<u>20</u> = Total Cover				Prevalence Index worksheet:															
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																			
1. <u>Lindera benzoin</u>	10	Yes	FACW		<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>30</u></td> <td>x 3 = <u>90</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u></td> <td>(A) <u>130</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.17</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>30</u>	x 3 = <u>90</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u>	(A) <u>130</u> (B)
Total % Cover of:	Multiply by:																		
OBL species <u>20</u>	x 1 = <u>20</u>																		
FACW species <u>10</u>	x 2 = <u>20</u>																		
FAC species <u>30</u>	x 3 = <u>90</u>																		
FACU species <u>0</u>	x 4 = <u>0</u>																		
UPL species <u>0</u>	x 5 = <u>0</u>																		
Column Totals: <u>60</u>	(A) <u>130</u> (B)																		
2. _____	_____	_____	_____																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
<u>10</u> = Total Cover																			
Herb Stratum (Plot Size: <u>5'</u> radius)																			
1. <u>Symplocarpus foetidus</u>	20	Yes	OBL	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic															
2. <u>Sanicula odorata</u>	10	Yes	FAC																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
6. _____	_____	_____	_____																
7. _____	_____	_____	_____																
8. _____	_____	_____	_____																
9. _____	_____	_____	_____																
10. _____	_____	_____	_____																
<u>30</u> = Total Cover																			
Vine Stratum (Plot Size: <u>30'</u> radius)																			
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>															
2. _____	_____	_____	_____																
<u>0</u> = Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR3/1	100					silt loam	
6-10	10YR3/1	95	7.5YR4/6	5	C	M	silt loam	
10-20	10YR4/1	100					sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W056A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL13A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat
 Slope (%): .5% Lat: 39.475106 Long: -86.36801 Datum: GCS NAD83
 Soil Map Unit Name: Genesee silt loam NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <i>Fraxinus pennsylvanica</i>	10	No	FACW	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>50</u> (A/B)																																
2. <i>Quercus sp.</i>	25	Yes	UPL																																	
3. <i>Robinia pseudoacacia</i>	25	Yes	FACU																																	
4. <i>Ulmus americana</i>	10	No	FACW																																	
5. _____																																				
	<u>70</u>	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:																																
1. <i>Acer negundo</i>	5	Yes	FAC	<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>2</u></td> <td align="center">x 1 =</td> <td align="center"><u>2</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>70</u></td> <td align="center">x 2 =</td> <td align="center"><u>140</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>20</u></td> <td align="center">x 3 =</td> <td align="center"><u>60</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>44</u></td> <td align="center">x 4 =</td> <td align="center"><u>176</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>25</u></td> <td align="center">x 5 =</td> <td align="center"><u>125</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>161</u></td> <td align="center">(A)</td> <td align="center"><u>503</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.12</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>2</u>	x 1 =	<u>2</u>	FACW species	<u>70</u>	x 2 =	<u>140</u>	FAC species	<u>20</u>	x 3 =	<u>60</u>	FACU species	<u>44</u>	x 4 =	<u>176</u>	UPL species	<u>25</u>	x 5 =	<u>125</u>	Column Totals:	<u>161</u>	(A)	<u>503</u> (B)	Prevalence Index = B/A = <u>3.12</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>2</u>	x 1 =	<u>2</u>																																	
FACW species	<u>70</u>	x 2 =	<u>140</u>																																	
FAC species	<u>20</u>	x 3 =	<u>60</u>																																	
FACU species	<u>44</u>	x 4 =	<u>176</u>																																	
UPL species	<u>25</u>	x 5 =	<u>125</u>																																	
Column Totals:	<u>161</u>	(A)	<u>503</u> (B)																																	
Prevalence Index = B/A = <u>3.12</u>																																				
2. <i>Lindera benzoin</i>	10	Yes	FACW																																	
3. <i>Lonicera tatarica</i>	5	Yes	FACU																																	
4. <i>Symphoricarpos orbiculatus</i>	2	Yes	FACU																																	
5. _____																																				
	<u>22</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:																																
1. <i>Cinna arundinacea</i>	40	Yes	FACW	___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation [§] (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <i>Sanicula odorata</i>	15	Yes	FAC																																	
3. <i>Solidago altissima</i>	5	No	FACU																																	
4. <i>Galium aparine</i>	5	No	FACU																																	
5. <i>Claytonia virginica</i>	2	No	FACU																																	
6. <i>Cardamine bulbosa</i>	2	No	OBL																																	
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	<u>69</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																																
1. _____				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																
2. _____																																				
	<u>0</u>	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/2	100					silt loam	
6-20	10YR4/3	100					sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>20</u> Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W056A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL13A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, R1E, T12N
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Flat
 Slope (%): .5% Lat: 39.475153 Long: -86.367864 Datum: GCS NAD83
 Soil Map Unit Name: Genesee silt loam NWI classification: PFO1C

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. <u>Acer negundo</u>	60	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. <u>Platanus occidentalis</u>	20	Yes	FACW																	
3. _____																				
4. _____																				
5. _____																				
	<u>80</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>70</u></td> <td>x 2 = <u>140</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td>x 3 = <u>180</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>320</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.46</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>70</u>	x 2 = <u>140</u>	FAC species <u>60</u>	x 3 = <u>180</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>320</u> (B)	Prevalence Index = B/A = <u>2.46</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>70</u>	x 2 = <u>140</u>																			
FAC species <u>60</u>	x 3 = <u>180</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>130</u> (A)	<u>320</u> (B)																			
Prevalence Index = B/A = <u>2.46</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
	<u>0</u>	= Total Cover																		
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <u>Lysimachia nummularia</u>	50	Yes	FACW																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
	<u>50</u>	= Total Cover																		
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____																				
2. _____																				
	<u>0</u>	= Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point CL13A-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	100					silty clay loam	
5-20	10YR5/2	98	5YR4/4	2	M	C	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>3</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W058B City/County: Morgan Sampling Date: 04/06/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL29B-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 5% Lat: 39.478992 Long: -86.366958 Datum: GCS NAD83
 Soil Map Unit Name Martinsville Loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Grass unknown</i>	60	Yes	UPL	
2. <i>Lamium purpureum</i>	25	Yes	UPL	
3. <i>Allium sp.</i>	5	No	UPL	
4. <i>Alliaria petiolata</i>	5	No	FAC	
5. <i>Cirsium arvense</i>	3	No	FACU	
6. <i>Rubus sp.</i>	2	No	UPL	
7. <i>Geranium carolinianum</i>	2	No	UPL	
8. <i>Erigenia bulbosa</i>	2	No	UPL	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
104 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>3</u>	x 4 = <u>12</u>
UPL species <u>96</u>	x 5 = <u>480</u>
Column Totals: <u>104</u> (A)	<u>507</u> (B)

Prevalence Index = B/A = 4.88

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL29B-1D1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	100					silt	
5-20	10YR4/4	100					sandy loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W058B City/County: Morgan Sampling Date: 04/06/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL29B-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 13, T12N, R1E
 Landform (hillslope, terrace, etc.): lake fringe Local relief (concave, convex, none): concave
 Slope (%): 1% Lat: 39.478934 Long: -86.366947 Datum: GCS NAD 1983
 Soil Map Unit Name: Martinsville Loam NWI classification: PEM1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>105</u></td> <td>x 2 = <u>210</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>210</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.00</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>105</u>	x 2 = <u>210</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u> (A)	<u>210</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>105</u>	x 2 = <u>210</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>105</u> (A)	<u>210</u> (B)																	
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																		
1. <u>Salix interior</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>5</u> = Total Cover																		
Herb Stratum (Plot Size: <u>5'</u> radius)																		
1. <u>Phalaris arundinacea</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
<u>100</u> = Total Cover																		
Vine Stratum (Plot Size: <u>30'</u> radius)																		
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
2. _____	_____	_____	_____															
<u>0</u> = Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL29B-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/2	100					loamy sand	
4-20	10YR4/2	60	5YR5/6	40	C	M	loamy sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1-2in</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0in</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Recieves runoff and discharge from SR37 culvert

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W059A City/County: Morgan Sampling Date: 8/25/2017
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: CL19A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: Sec 13-T12N-R1E
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave
 Slope (%): 2-6 Lat: 39.479457 Long: -86.366896 Datum: GCS NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Schedonorus arundinaceus</i>	80	Yes	FACU	
2. <i>Solidago altissima</i>	10	No	FACU	
3. <i>Sorghum halepense</i>	5	No	FACU	
4. <i>Lolium perenne</i>	5	No	FACU	
5. <i>Cirsium arvense</i>	2	No	FACU	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
102 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Vitis riparia</i>	2	No	_____	
2. _____	_____	_____	_____	
2 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>2</u>	x 2 = <u>4</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>102</u>	x 4 = <u>408</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>104</u> (A)	<u>412</u> (B)

Prevalence Index = B/A = 3.96

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/2	100					silt loam	dry

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:
Soil is very hard below 4 nches and could not be penetrated by shovel.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Postion (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Sample point is 5 to 6 feet above the adjacent wetland base elevation.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W059A City/County: Morgan Sampling Date: 8/25/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL19A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: Sec 13-T12N-R1E
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.479339 Long: -86.367239 Datum: GCS NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:															
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)															
2. _____	_____	_____	_____																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
<u>0</u> = Total Cover				Prevalence Index worksheet:															
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																			
1. <u>Salix interior</u>	<u>1</u>	<u>No</u>	<u>FACW</u>		<table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>100</u></td> <td>x 1 = <u>100</u></td> </tr> <tr> <td>FACW species <u>1</u></td> <td>x 2 = <u>2</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>101</u> (A)</td> <td><u>102</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>1.01</u>	Total % Cover of:	Multiply by:	OBL species <u>100</u>	x 1 = <u>100</u>	FACW species <u>1</u>	x 2 = <u>2</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>101</u> (A)	<u>102</u> (B)
Total % Cover of:	Multiply by:																		
OBL species <u>100</u>	x 1 = <u>100</u>																		
FACW species <u>1</u>	x 2 = <u>2</u>																		
FAC species <u>0</u>	x 3 = <u>0</u>																		
FACU species <u>0</u>	x 4 = <u>0</u>																		
UPL species <u>0</u>	x 5 = <u>0</u>																		
Column Totals: <u>101</u> (A)	<u>102</u> (B)																		
2. _____	_____	_____	_____																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
<u>1</u> = Total Cover																			
Herb Stratum (Plot Size: <u>5'</u> radius)																			
1. <u>Leersia oryzoides</u>	<u>98</u>	<u>Yes</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation [§] (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic															
2. <u>Sium suave</u>	<u>2</u>	<u>No</u>	<u>OBL</u>																
3. _____	_____	_____	_____																
4. _____	_____	_____	_____																
5. _____	_____	_____	_____																
6. _____	_____	_____	_____																
7. _____	_____	_____	_____																
8. _____	_____	_____	_____																
9. _____	_____	_____	_____																
10. _____	_____	_____	_____																
<u>100</u> = Total Cover																			
Vine Stratum (Plot Size: <u>30'</u> radius)																			
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>															
2. _____	_____	_____	_____																
<u>0</u> = Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point CL19A-1W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/1	95	10YR4/4	5	C	M	silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>9</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W059B City/County: Morgan Sampling Date: 8/25/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: CL19B-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave
 Slope (%): 1-2 Lat: 39.479151 Long: -86.3671 Datum: GCS NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain Remarks.)
 Are Vegetation _____, Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No: _____
 Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soils Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer negundo</u>	10	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. <u>Fraxinus pennsylvanica</u>	10	Yes	FACW																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
20 = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>2</u></td> <td>x 1 = <u>2</u></td> </tr> <tr> <td>FACW species <u>133</u></td> <td>x 2 = <u>266</u></td> </tr> <tr> <td>FAC species <u>15</u></td> <td>x 3 = <u>45</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>150</u> (A)</td> <td><u>313</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.09</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>2</u>	x 1 = <u>2</u>	FACW species <u>133</u>	x 2 = <u>266</u>	FAC species <u>15</u>	x 3 = <u>45</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>150</u> (A)	<u>313</u> (B)	Prevalence Index = B/A = <u>2.09</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>2</u>	x 1 = <u>2</u>																			
FACW species <u>133</u>	x 2 = <u>266</u>																			
FAC species <u>15</u>	x 3 = <u>45</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>150</u> (A)	<u>313</u> (B)																			
Prevalence Index = B/A = <u>2.09</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. <u>Acer negundo</u>	5	No	FAC																	
2. <u>Fraxinus pennsylvanica</u>	5	No	FACW																	
3. <u>Salix interior</u>	90	Yes	FACW																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
100 = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <u>Lysimachia nummularia</u>	20	Yes	FACW																	
2. <u>Urtica dioica</u>	2	No	FACW																	
3. <u>Solidago gigantea</u>	2	No	FACW																	
4. <u>Rudbeckia laciniata</u>	2	No	FACW																	
5. <u>Persicaria amphibia</u>	2	No	OBL																	
6. <u>Cinna arundinacea</u>	2	No	FACW																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
30 = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
0 = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Present? Yes No _____

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	100					silt loam	
5-10	10YR4/2	95	10YR4/6	5	C	M	silt loam	
10-20	10YR5/6	100					loamy sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W063A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: HB07A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 8, T12N, R2E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): flat
 Slope (%): 1% Lat: 39.496349 Long: -86.341805 Datum: GCS NAD83
 Soil Map Unit Name Shoals silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																												
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																												
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>10</u></td> <td>(A)</td> <td align="center"><u>20</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.00</u>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>10</u>	(A)	<u>20</u> (B)
Total % Cover of:		Multiply by:																														
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
FACW species	<u>10</u>	x 2 =	<u>20</u>																													
FAC species	<u>0</u>	x 3 =	<u>0</u>																													
FACU species	<u>0</u>	x 4 =	<u>0</u>																													
UPL species	<u>0</u>	x 5 =	<u>0</u>																													
Column Totals:	<u>10</u>	(A)	<u>20</u> (B)																													
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
<u>0</u> = Total Cover																																
Herb Stratum (Plot Size: <u>5'</u> radius)																																
1. <u>Packera glabella</u>	<u>10</u>	Yes	FACW																													
2. _____	_____	_____	_____																													
3. _____	_____	_____	_____																													
4. _____	_____	_____	_____																													
5. _____	_____	_____	_____																													
6. _____	_____	_____	_____																													
7. _____	_____	_____	_____																													
8. _____	_____	_____	_____																													
9. _____	_____	_____	_____																													
10. _____	_____	_____	_____																													
<u>10</u> = Total Cover																																
Vine Stratum (Plot Size: <u>30'</u> radius)																																
1. _____	_____	_____	_____																													
2. _____	_____	_____	_____																													
<u>0</u> = Total Cover																																
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/2	100					silt loam	
6-20	10YR4/3	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W063A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: HB07A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 12, T12N, R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): flat
 Slope (%): 1% Lat: 39.49626 Long: -86.341724 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam, Shoals silt loam NWI classification: PEM1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>100</u></td> <td>x 2 =</td> <td align="center"><u>200</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>200</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>100</u>	x 2 =	<u>200</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>100</u>	x 2 =	<u>200</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>200</u> (B)																																	
Prevalence Index = B/A = <u>2.00</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Phalaris arundinacea</u>	<u>100</u>	Yes	FACW																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>100</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				

Hydrophytic Vegetation Indicators:
 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 This roadside wetland is regularly mowed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 4/2	100					silty clay loam	
6-12	10YR4/2	98	5YR4/6	2	C	M	silty clay loam	
12-20	10YR5/2	98	5YR4/6	2	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W064A City/County: Morgan Sampling Date: 11/3/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HB03A-1D1
 Investigator(s): L. Barnhart, A. Grisel Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 18-25 Lat: 39.494993 Long: -86.341108 Datum: GCS NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located approximately 282 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u><i>Acer saccharum</i></u>	40	Yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>25</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>40</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>15</u></td> <td>x 2 =</td> <td align="center"><u>30</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>90</u></td> <td>x 4 =</td> <td align="center"><u>360</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>105</u></td> <td>(A)</td> <td align="center"><u>390</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>3.71</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>15</u>	x 2 =	<u>30</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>90</u>	x 4 =	<u>360</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>105</u>	(A)	<u>390</u> (B)	Prevalence Index = B/A = <u>3.71</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>15</u>	x 2 =	<u>30</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>90</u>	x 4 =	<u>360</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>105</u>	(A)	<u>390</u> (B)																																	
Prevalence Index = B/A = <u>3.71</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u><i>Acer saccharum</i></u>	25	Yes	FACU																																	
2. <u><i>Gleditsia triacanthos</i></u>	5	No	FACU																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>30</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u><i>Sanicula canadensis</i></u>	20	Yes	FACU																																	
2. <u><i>Persicaria bicornis</i></u>	15	Yes	FACW																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>35</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Remarks: (Include photo numbers here or on a separate sheet.)																																				

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR4/3	100					sand	
10-20	10YR6/4	100					sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W064A City/County: Morgan Sampling Date: 11/3/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HB03A-1W1
 Investigator(s): L. Barnhart, A. Grisel Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 18-25 Lat: 39.495016 Long: -86.341059 Datum: GCS NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located approximately 279 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Acer negundo</u>	5	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67</u> (A/B)																																
2. <u>Acer saccharum</u>	15	Yes	FACU																																	
3. <u>Platanus occidentalis</u>	5	Yes	FACW																																	
4. _____																																				
5. _____																																				
	<u>25</u>	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				Prevalence Index worksheet:																																
1. <u>Acer negundo</u>	5	No	FAC	<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>10</u></td> <td align="center">x 1 =</td> <td align="center"><u>10</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>60</u></td> <td align="center">x 2 =</td> <td align="center"><u>120</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>10</u></td> <td align="center">x 3 =</td> <td align="center"><u>30</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>60</u></td> <td align="center">x 4 =</td> <td align="center"><u>240</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>140</u></td> <td align="center">(A)</td> <td align="center"><u>400</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.86</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>10</u>	x 1 =	<u>10</u>	FACW species	<u>60</u>	x 2 =	<u>120</u>	FAC species	<u>10</u>	x 3 =	<u>30</u>	FACU species	<u>60</u>	x 4 =	<u>240</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>140</u>	(A)	<u>400</u> (B)	Prevalence Index = B/A = <u>2.86</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>10</u>	x 1 =	<u>10</u>																																	
FACW species	<u>60</u>	x 2 =	<u>120</u>																																	
FAC species	<u>10</u>	x 3 =	<u>30</u>																																	
FACU species	<u>60</u>	x 4 =	<u>240</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>140</u>	(A)	<u>400</u> (B)																																	
Prevalence Index = B/A = <u>2.86</u>																																				
2. <u>Acer saccharum</u>	40	Yes	FACU																																	
3. <u>Gleditsia triacanthos</u>	5	No	FACU																																	
4. _____																																				
5. _____																																				
	<u>50</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Urtica dioica</u>	20	Yes	FACW	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <u>Elymus riparius</u>	20	Yes	FACW																																	
3. <u>Boehmeria cylindrica</u>	10	No	OBL																																	
4. <u>Solidago gigantea</u>	5	No	FACW																																	
5. <u>Phalaris arundinacea</u>	5	No	FACW																																	
6. <u>Persicaria bicornis</u>	5	No	FACW																																	
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	<u>65</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	<u>0</u>	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR3/1	90	10YR5/6	10	M	C	sand	
12-20	10YR4/1	100					sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W065A City/County: Morgan Sampling Date: 8/25/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: HB04A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex
 Slope (%): 6-12 Lat: 39.497322 Long: -86.338604 Datum: GCS NAD83
 Soil Map Unit Name Pits NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?		
Hydric Soils Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks					

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That are OBL, FACW, or FAC: <u>50</u> (A/B)	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
	<u>0</u>	= Total Cover			
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: Multiply by:	
2. _____	_____	_____	_____	OBL species <u>0</u>	x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>5</u>	x 2 = <u>10</u>
4. _____	_____	_____	_____	FAC species <u>40</u>	x 3 = <u>120</u>
5. _____	_____	_____	_____	FACU species <u>30</u>	x 4 = <u>120</u>
	_____	_____	_____	UPL species <u>0</u>	x 5 = <u>0</u>
	<u>0</u>	= Total Cover		Column Totals: <u>75</u> (A)	<u>250</u> (B)
				Prevalence Index = B/A = <u>3.33</u>	
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <i>Sanicula odorata</i>	40	Yes	FAC	___ 1-Rapid Test for Hydrophytic Vegetation:	
2. <i>Lonicera japonica</i>	25	Yes	FACU	___ 2-Dominance Test is >50%	
3. <i>Elymus riparius</i>	5	No	FACW	___ 3-Prevalence Index is <=3	
4. <i>Ageratina altissima</i>	5	No	FACU	___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
	<u>75</u>	= Total Cover			
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____		
	<u>0</u>	= Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-14+	10YR4/4	100					silt loam	dry and friable

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:
Soil too hard to penetrate with shovel beyond 14 inches. Very dry and friable.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W065A City/County: Morgan Sampling Date: 8/25/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: HB04A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): hillside swale Local relief (concave, convex, none): concave
 Slope (%): 2-6 Lat: 39.497256 Long: -86.338623 Datum: GCS NAD83
 Soil Map Unit Name: Pits NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Pilea pumila</i>	5	Yes	FACW	
2. <i>Toxicodendron radicans</i>	2	Yes	FAC	
3. <i>Impatiens capensis</i>	2	Yes	FACW	
4. <i>Glyceria striata</i>	2	Yes	OBL	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>2</u>	x 1 = <u>2</u>
FACW species <u>7</u>	x 2 = <u>14</u>
FAC species <u>2</u>	x 3 = <u>6</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>11</u> (A)	<u>22</u> (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5YR3/1	80	2.7YR3/4	20	C	M	loamy sand	
8-20	10YR4/1	100					loamy sand	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

- Coast Prairie Redox (A16)
- Dark Surface (S7)
- Iron-Manganese Masses (F12)
- Very Shallow Dark Surface (TF12)
- Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input checked="" type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>16</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>9</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W066A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HB06A-1D1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 0-2 Lat: 39.498839 Long: -86.336371 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located along a SR37 roadside ditch approximaetly 28 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>25</u></td> <td>x 4 = <u>100</u></td> </tr> <tr> <td>UPL species <u>70</u></td> <td>x 5 = <u>350</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>450</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.74</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>25</u>	x 4 = <u>100</u>	UPL species <u>70</u>	x 5 = <u>350</u>	Column Totals: <u>95</u> (A)	<u>450</u> (B)	Prevalence Index = B/A = <u>4.74</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>25</u>	x 4 = <u>100</u>																			
UPL species <u>70</u>	x 5 = <u>350</u>																			
Column Totals: <u>95</u> (A)	<u>450</u> (B)																			
Prevalence Index = B/A = <u>4.74</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Securigeria varia</i>	45	Yes	UPL																	
2. <i>Solidago canadensis</i>	25	Yes	FACU																	
3. <i>Daucus carota</i>	25	Yes	UPL																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>95</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				

Hydrophytic Vegetation Indicators:
 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR4/3	100					clay loam	
2-20	10YR6/1	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W066A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HB06A-1W1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.498868 Long: -86.336377 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located along a SR 37 roadside ditch approximately 19 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>20</u></td> <td>x 1 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>80</u></td> <td>x 2 =</td> <td align="center"><u>160</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>180</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>1.80</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>20</u>	x 1 =	<u>20</u>	FACW species	<u>80</u>	x 2 =	<u>160</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>180</u> (B)	Prevalence Index = B/A = <u>1.80</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>20</u>	x 1 =	<u>20</u>																																	
FACW species	<u>80</u>	x 2 =	<u>160</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>180</u> (B)																																	
Prevalence Index = B/A = <u>1.80</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <i>Phalaris arundinacea</i>	40	Yes	FACW																																	
2. <i>Impatiens capensis</i>	40	Yes	FACW																																	
3. <i>Schoenoplectus tabernaemontani</i>	20	Yes	OBL																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>100</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR2/1	100					clay loam	
3-20	10YR3/1	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W067A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HB05A-1D1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): convex
 Slope (%): 18-25 Lat: 39.498377 Long: -86.337249 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located on hillside adjacent to wetland approximately 56 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>65</u></td> <td>x 4 =</td> <td align="center"><u>260</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>25</u></td> <td>x 5 =</td> <td align="center"><u>125</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>405</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.05</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>65</u>	x 4 =	<u>260</u>	UPL species	<u>25</u>	x 5 =	<u>125</u>	Column Totals:	<u>100</u>	(A)	<u>405</u> (B)	Prevalence Index = B/A = <u>4.05</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>10</u>	x 2 =	<u>20</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>65</u>	x 4 =	<u>260</u>																																	
UPL species	<u>25</u>	x 5 =	<u>125</u>																																	
Column Totals:	<u>100</u>	(A)	<u>405</u> (B)																																	
Prevalence Index = B/A = <u>4.05</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Solidago canadensis</u>	<u>65</u>	Yes	FACU																																	
2. <u>Securigeria varia</u>	<u>25</u>	Yes	UPL																																	
3. <u>Impatiens capensis</u>	<u>10</u>	No	FACW																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>100</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/2	100					clay loam	
4-20	10YR4/3	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations:

Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W067A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HB05A-1W1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 8-T12N-R2E
 Landform (hillslope, terrace, etc.): hillside Local relief (concave, convex, none): concave
 Slope (%): 18-25 Lat: 39.498372 Long: -86.337181 Datum: GCS NAD83
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located on hillside approximately 72 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)				
1. <i>Phalaris arundinacea</i>	60	Yes	FACW	
2. <i>Impatiens capensis</i>	15	No	FACW	
3. <i>Eupatorium perfoliatum</i>	15	No	OBL	
4. <i>Solidago canadensis</i>	5	No	FACU	
5. <i>Carex lurida</i>	5	No	OBL	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>75</u>	x 2 = <u>150</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>190</u> (B)

Prevalence Index = B/A = 1.90

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/1	100					clay loam	
3-20	10YR4/1	80	10YR5/6	20	C	M	clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>11</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W068A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochumueller State: Indiana Sampling Point: HB02A-1D1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 8, T12N, R2E
 Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): flat
 Slope (%): 2% Lat: 39.500192 Long: -86.33546 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: upland

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. <u><i>Acer negundo</i></u>	30	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. <u><i>Acer saccharinum</i></u>	50	Yes	FACW																																	
3. <u><i>Juniperus virginiana</i></u>	5		FACU																																	
4. _____																																				
5. _____																																				
	85 = Total Cover																																			
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:																																
1. <u><i>Acer negundo</i></u>	5	Yes	FAC	<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center">0</td> <td>x 1 =</td> <td align="center">0</td> </tr> <tr> <td>FACW species</td> <td align="center">121</td> <td>x 2 =</td> <td align="center">242</td> </tr> <tr> <td>FAC species</td> <td align="center">36</td> <td>x 3 =</td> <td align="center">108</td> </tr> <tr> <td>FACU species</td> <td align="center">15</td> <td>x 4 =</td> <td align="center">60</td> </tr> <tr> <td>UPL species</td> <td align="center">5</td> <td>x 5 =</td> <td align="center">25</td> </tr> <tr> <td>Column Totals:</td> <td align="center">177</td> <td>(A)</td> <td align="center">435 (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.46</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	0	x 1 =	0	FACW species	121	x 2 =	242	FAC species	36	x 3 =	108	FACU species	15	x 4 =	60	UPL species	5	x 5 =	25	Column Totals:	177	(A)	435 (B)	Prevalence Index = B/A = <u>2.46</u>			
Total % Cover of:		Multiply by:																																		
OBL species	0	x 1 =	0																																	
FACW species	121	x 2 =	242																																	
FAC species	36	x 3 =	108																																	
FACU species	15	x 4 =	60																																	
UPL species	5	x 5 =	25																																	
Column Totals:	177	(A)	435 (B)																																	
Prevalence Index = B/A = <u>2.46</u>																																				
2. <u><i>Acer saccharinum</i></u>	5	Yes	FACW																																	
3. _____																																				
4. _____																																				
5. _____																																				
	10 = Total Cover																																			
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:																																
1. <u><i>Elymus riparius</i></u>	65	Yes	FACW	___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <u><i>Viola sp.</i></u>	5		UPL																																	
3. <u><i>Stellaria media</i></u>	5		FACU																																	
4. <u><i>Galium aparine</i></u>	5		FACU																																	
5. <u><i>Laportea canadensis</i></u>	1		FACW																																	
6. <u><i>Alliaria petiolata</i></u>	1		FAC																																	
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	82 = Total Cover																																			
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?																																
1. _____				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	0 = Total Cover																																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR4/2	100					silt loam	
3-15	10YR4/3	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W068A City/County: Morgan Sampling Date: 04/05/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: HB02A-1W1
 Investigator(s): R. Yeager, B. Reust Section, Township, Range: SEC 8, T12N, R2E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): flat
 Slope (%): 0-1 Lat: 39.500116 Long: -86.33523 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: PFO1

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Acer negundo</i></u>	10	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>86</u> (A/B)																
2. <u><i>Acer saccharinum</i></u>	70	Yes	FACW																	
3. <u><i>Populus deltoides</i></u>	10	Yes	FAC																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
90 = Total Cover																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Acer saccharinum</i></u>	15	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>45</u></td> <td>x 3 = <u>135</u></td> </tr> <tr> <td>FACU species <u>5</u></td> <td>x 4 = <u>20</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>150</u> (A)</td> <td><u>355</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.37</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>45</u>	x 3 = <u>135</u>	FACU species <u>5</u>	x 4 = <u>20</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>150</u> (A)	<u>355</u> (B)	Prevalence Index = B/A = <u>2.37</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>100</u>	x 2 = <u>200</u>																			
FAC species <u>45</u>	x 3 = <u>135</u>																			
FACU species <u>5</u>	x 4 = <u>20</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>150</u> (A)	<u>355</u> (B)																			
Prevalence Index = B/A = <u>2.37</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
15 = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Symphyotrichum lanceolatum</i></u>	25	Yes	FAC	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation [§] (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																
2. <u><i>Elymus riparius</i></u>	15	Yes	FACW																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
40 = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u><i>Campsis radicans</i></u>	5	Yes	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																
2. _____	_____	_____	_____																	
5 = Total Cover																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/2	100					silty clay loam	
6-12	10YR4/3	100					silty clay loam	
12-20	10YR4/2	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes <u>X</u> No _____ Depth (inches): <u>2</u> Water Table Present? Yes <u>X</u> No _____ Depth (inches): <u>20</u> Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>8</u>	Wetland Hydrology Present? Yes <u>X</u> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W070A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: NT04A-1D1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 4-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): convex
 Slope (%): 0-2 Lat: 39.507746 Long: -86.321828 Datum: GCS NAD83
 Soil Map Unit Name: Genesee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: _____)				
1. <i>Trifolium repens</i>	40	Yes	FACU	
2. <i>Schedonorus arundinaceus</i>	40	Yes	FACU	
3. <i>Plantago major</i>	20	Yes	FAC	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>20</u>	x 3 = <u>60</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>380</u> (B)

Prevalence Index = B/A = 3.80

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation[§] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR3/2	100					clay loam	
5-20	10YR4/6	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W070A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: NT04A-1W1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 4-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.507771 Long: -86.321731 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located approximately 64 feet off of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>5</u></td> <td>x 1 =</td> <td align="center"><u>5</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>85</u></td> <td>x 2 =</td> <td align="center"><u>170</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>5</u></td> <td>x 4 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>95</u></td> <td>(A)</td> <td align="center"><u>195</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.05</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>5</u>	x 1 =	<u>5</u>	FACW species	<u>85</u>	x 2 =	<u>170</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>5</u>	x 4 =	<u>20</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>95</u>	(A)	<u>195</u> (B)	Prevalence Index = B/A = <u>2.05</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>5</u>	x 1 =	<u>5</u>																																	
FACW species	<u>85</u>	x 2 =	<u>170</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>5</u>	x 4 =	<u>20</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>95</u>	(A)	<u>195</u> (B)																																	
Prevalence Index = B/A = <u>2.05</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Phalaris arundinacea</u>	<u>30</u>	Yes	FACW																																	
2. <u>Impatiens capensis</u>	<u>30</u>	Yes	FACW																																	
3. <u>Mentha arvensis</u>	<u>15</u>	No	FACW																																	
4. <u>Cyperus esculentus</u>	<u>10</u>	No	FACW																																	
5. <u>Eupatorium perfoliatum</u>	<u>5</u>	No	OBL																																	
6. <u>Cirsium arvense</u>	<u>5</u>	No	FACU																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>95</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR2/1	100					clay loam	
6-20	10YR4/1	70	10YR4/6	30	C	M	clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W071A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: NT06A-1D1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 4-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 35-82 Lat: 39.510148 Long: -86.317573 Datum: GCS NAD83
 Soil Map Unit Name Berks channery silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located along a roadside ditch approximately 16 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: _____)				
1. <i>Schedonorus arundinaceus</i>	65	Yes	FACU	
2. <i>Securigeria varia</i>	25	Yes	UPL	
3. <i>Urtica dioica</i>	5	No	FACW	
4. <i>Solidago canadensis</i>	5	No	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>70</u>	x 4 = <u>280</u>
UPL species <u>25</u>	x 5 = <u>125</u>
Column Totals: <u>100</u> (A)	<u>415</u> (B)

Prevalence Index = B/A = 4.15

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR3/2	100					clay loam	
3-17	10YR4/4	100					clay loam	
17-20	10YR4/6	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W071A City/County: Morgan Sampling Date: 9/21/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: NT06A-1W1
 Investigator(s): R. Connolly, A. Grisel Section, Township, Range: Sec 4-T12N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 35-80 Lat: 39.510142 Long: -86.317649 Datum: GCS NAD83
 Soil Map Unit Name Berks channery silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located along roadside ditch approximately 31 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30' radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u></td> <td>(A) <u>200</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u>	(A) <u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>100</u>	x 2 = <u>200</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>100</u>	(A) <u>200</u> (B)																			
Prevalence Index = B/A = <u>2.00</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15' radius</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5' radius</u>)																				
1. <i>Phalaris arundinacea</i>	85	Yes	FACW																	
2. <i>Panicum pensylvanicum</i>	5	No	FACW																	
3. <i>Impatiens capensis</i>	5	No	FACW																	
4. <i>Cyperus esculentus</i>	5	No	FACW																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30 radius</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input type="checkbox"/> 2-Dominance Test is >50% <input type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR3/2	100					clay loam	
4-20	10YR6/1	80	10YR5/6	20	C	M	clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W077A City/County: Morgan County Sampling Date: 9/16/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: SC02A-1D1
 Investigator(s): A. Grisel, L. Barnhart Section, Township, Range: Sec 34-T13N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 0-2% Lat: 39.527426 Long: -86.28998 Datum: GCS NAD 1983
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point is located in forested area approximately 73 feet west of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u><i>Acer saccharinum</i></u>	60	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>67</u> (A/B)																																
2. <u><i>Prunus serotina</i></u>	10	No	FACU																																	
3. <u><i>Ulmus rubra</i></u>	10	Yes	FAC																																	
4. _____																																				
5. _____																																				
	80	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				Prevalence Index worksheet:																																
1. <u><i>Acer saccharinum</i></u>	10	Yes	FACW	<table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>70</u></td> <td>x 2 =</td> <td align="center"><u>140</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>15</u></td> <td>x 3 =</td> <td align="center"><u>45</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>35</u></td> <td>x 4 =</td> <td align="center"><u>140</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>120</u></td> <td align="center">(A)</td> <td align="center"><u>325</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.71</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>70</u>	x 2 =	<u>140</u>	FAC species	<u>15</u>	x 3 =	<u>45</u>	FACU species	<u>35</u>	x 4 =	<u>140</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>120</u>	(A)	<u>325</u> (B)	Prevalence Index = B/A = <u>2.71</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>70</u>	x 2 =	<u>140</u>																																	
FAC species	<u>15</u>	x 3 =	<u>45</u>																																	
FACU species	<u>35</u>	x 4 =	<u>140</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>120</u>	(A)	<u>325</u> (B)																																	
Prevalence Index = B/A = <u>2.71</u>																																				
2. <u><i>Lonicera X bella</i></u>	20	Yes	FACU																																	
3. _____																																				
4. _____																																				
5. _____																																				
	30	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators:																																
1. <u><i>Toxicodendron radicans</i></u>	5	Yes	FAC	1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	5	= Total Cover																																		
Vine Stratum (Plot Size: <u>30'</u> radius)				Hydrophytic Vegetation Present?																																
1. <u><i>Parthenocissus quinquefolia</i></u>	5	Yes		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	5	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/3	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W077A City/County: Morgan County Sampling Date: 9/16/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: SC02A-1W1
 Investigator(s): A. Grisel, L. Barnhart Section, Township, Range: Sec 34-T13N-R2E
 Landform (hillslope, terrace, etc.): Roadside Local relief (concave, convex, none): Concave
 Slope (%): 0-2% Lat: 39.527426 Long: -86.28998 Datum: GCS NAD 1983
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Soil, hydrology, and vegetation are disturbed within the wetland as rip rap was placed within a portion of the wetland</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Acer negundo</u>	20	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>10</u> (A) Total Number of Dominant Species Across All Strata: <u>10</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. <u>Acer saccharinum</u>	10	No	FACW																																	
3. <u>Populus deltoides</u>	40	Yes	FAC																																	
4. <u>Salix interior</u>	10	No	FACW																																	
5. _____																																				
	<u>80</u>	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>55</u></td> <td align="center">x 1 =</td> <td align="center"><u>55</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>35</u></td> <td align="center">x 2 =</td> <td align="center"><u>70</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>80</u></td> <td align="center">x 3 =</td> <td align="center"><u>240</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>10</u></td> <td align="center">x 4 =</td> <td align="center"><u>40</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="center">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>180</u></td> <td align="center">(A)</td> <td align="center"><u>405</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.25</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>55</u>	x 1 =	<u>55</u>	FACW species	<u>35</u>	x 2 =	<u>70</u>	FAC species	<u>80</u>	x 3 =	<u>240</u>	FACU species	<u>10</u>	x 4 =	<u>40</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>180</u>	(A)	<u>405</u> (B)	Prevalence Index = B/A = <u>2.25</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>55</u>	x 1 =	<u>55</u>																																	
FACW species	<u>35</u>	x 2 =	<u>70</u>																																	
FAC species	<u>80</u>	x 3 =	<u>240</u>																																	
FACU species	<u>10</u>	x 4 =	<u>40</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>180</u>	(A)	<u>405</u> (B)																																	
Prevalence Index = B/A = <u>2.25</u>																																				
1. <u>Acer negundo</u>	5	Yes	FAC																																	
2. <u>Asimina triloba</u>	5	Yes	FAC																																	
3. <u>Populus deltoides</u>	5	Yes	FAC																																	
4. <u>Salix interior</u>	5	Yes	FACW																																	
5. _____																																				
	<u>20</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
1. <u>Carex muskingumensis</u>	20	Yes	OBL																																	
2. <u>Carex lurida</u>	20	Yes	OBL																																	
3. <u>Impatiens capensis</u>	10	Yes	FACW																																	
4. <u>Eupatorium perfoliatum</u>	10	Yes	OBL																																	
5. <u>Toxicodendron radicans</u>	5	No	FAC																																	
6. <u>Solidago canadensis</u>	5	No	FACU																																	
7. <u>Scirpus atrovirens</u>	5	No	OBL																																	
8. <u>Sanicula canadensis</u>	5	No	FACU																																	
9. _____																																				
10. _____																																				
	<u>80</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
1. _____																																				
2. _____																																				
	<u>0</u>	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/1	100					sandy loam	
4-20	N6/	90	10YR4/4	10			silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input checked="" type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
	<input type="checkbox"/> Coast Prairie Redox (A16)
	<input type="checkbox"/> Dark Surface (S7)
	<input type="checkbox"/> Iron-Manganese Masses (F12)
	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
	<input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u>	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W082A City/County: Morgan County Sampling Date: 9/16/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: SC05A-1D1
 Investigator(s): A. Grisel, L. Barnhart Section, Township, Range: Sec 26-T13N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 0-2% Lat: 39.536876 Long: -86.277837 Datum: GCS NAD 1983
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks <u>Data point located within a residential yard adjacent to wetland approximately 44 feet east of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>105</u></td> <td>x 4 = <u>420</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>420</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>105</u>	x 4 = <u>420</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u> (A)	<u>420</u> (B)	Prevalence Index = B/A = <u>4.00</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>105</u>	x 4 = <u>420</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>105</u> (A)	<u>420</u> (B)																			
Prevalence Index = B/A = <u>4.00</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Schedonorus arundinaceus</i>	90	Yes	FACU																	
2. <i>Trifolium repens</i>	5	No	FACU																	
3. <i>Taraxacum officinale</i>	5	No	FACU																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>100</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. <i>Parthenocissus quinquefolia</i>	5	Yes	_____																	
2. _____	_____	_____	_____																	
<u>5</u> = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Present? Yes No

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR4/3	100					silty clay loam	
16-20	10YR4/3	90	10YR4/6	10	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W082A City/County: Morgan County Sampling Date: 9/16/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: SC05A-1W1
 Investigator(s): A. Grisel, L. Barnhart Section, Township, Range: Sec 26-T13N-R2E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-2% Lat: 39.536898 Long: -86.277905 Datum: GCS NAD 1983
 Soil Map Unit Name Princeton fine sandy loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is located along a roadside ditch approximately 24 feet east of SR 37 Soil, hydrology, and vegetation are disturbed within the wetland as it is located at the base of the roadway embankment within INDOT right-of-way. This wetland is located at</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>95</u></td> <td>x 2 =</td> <td align="center"><u>190</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>5</u></td> <td>x 3 =</td> <td align="center"><u>15</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>205</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>2.05</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>95</u>	x 2 =	<u>190</u>	FAC species	<u>5</u>	x 3 =	<u>15</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>205</u> (B)	Prevalence Index = B/A = <u>2.05</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>95</u>	x 2 =	<u>190</u>																																	
FAC species	<u>5</u>	x 3 =	<u>15</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>205</u> (B)																																	
Prevalence Index = B/A = <u>2.05</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <i>Phalaris arundinacea</i> 2. <i>Setaria pumila</i> 3. <i>Helianthus nuttallii</i> 4. <i>Brunnichia ovata</i> 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____	85 5 5 5	Yes No No No	FACW FAC FACW FACW																																	
<u>100</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius) 1. _____ 2. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation [§] (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
<u>0</u> = Total Cover																																				
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR3/1	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input checked="" type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input checked="" type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W089A City/County: Johnson County Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: TP01A-1D1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 32-T14N-R3E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): none
 Slope (%): 0-2 Lat: 39.609001 Long: -86.217833 Datum: GCS NAD 1983
 Soil Map Unit Name: Genesse silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain Remarks.)
 Are Vegetation _____, Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No: _____
 Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soils Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: Data point is located approximately 328 feet west of SR 37. This site is part of a wetland complex adjacent to an open water pond. This data point could be considered to be within a wetland.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Schedonorus arundinaceus</i>	50	Yes	FACU	
2. <i>Plantago major</i>	30	Yes	FAC	
3. <i>Setaria parviflora</i>	10	No	FAC	
4. <i>Poa annua</i>	10	No	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>40</u>	x 3 =	<u>120</u>
FACU species	<u>60</u>	x 4 =	<u>240</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>100</u>	(A)	<u>360</u> (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

___ 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes _____ No

Remarks: (Include photo numbers here or on a separate sheet.)
 This data point passes test for hydrophytic vegetation and can be considered to be within a wetland.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR3/3	100					sandy clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil present? Yes _____ No X

Remarks:
 This data point meets the criteria for Redox Dark Surface (F6) and can be considered to be within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations:

Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 This data point has indicators of wetland hydrology and can be considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W089A City/County: Johnson Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: TP01A-1W1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 32-T14N-R3E
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.609024 Long: -86.217783 Datum: GCS NAD83
 Soil Map Unit Name Genesee silt loam NWI classification: PEM

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain Remarks.)
 Are Vegetation _____, Soil _____ or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No: _____
 Are Vegetation _____, Soil _____ or Hydrology _____ naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soils Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks <u>Wetland is part of a larger complex adjacent to an open water pond. Data point is located approximately 320 feet west of SR 37.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
1. <u>Salix interior</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>5</u> = Total Cover																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: <table border="0"> <tr> <td colspan="2">Total % Cover of:</td> <td colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td><u>20</u></td> <td>x 1 =</td> <td><u>20</u></td> </tr> <tr> <td>FACW species</td> <td><u>70</u></td> <td>x 2 =</td> <td><u>140</u></td> </tr> <tr> <td>FAC species</td> <td><u>10</u></td> <td>x 3 =</td> <td><u>30</u></td> </tr> <tr> <td>FACU species</td> <td><u>0</u></td> <td>x 4 =</td> <td><u>0</u></td> </tr> <tr> <td>UPL species</td> <td><u>0</u></td> <td>x 5 =</td> <td><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>100</u></td> <td>(A)</td> <td><u>190</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center;">Prevalence Index = B/A = <u>1.90</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>20</u>	x 1 =	<u>20</u>	FACW species	<u>70</u>	x 2 =	<u>140</u>	FAC species	<u>10</u>	x 3 =	<u>30</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>190</u> (B)	Prevalence Index = B/A = <u>1.90</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>20</u>	x 1 =	<u>20</u>																																	
FACW species	<u>70</u>	x 2 =	<u>140</u>																																	
FAC species	<u>10</u>	x 3 =	<u>30</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>100</u>	(A)	<u>190</u> (B)																																	
Prevalence Index = B/A = <u>1.90</u>																																				
1. <u>Salix interior</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>5</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
1. <u>Phalaris arundinacea</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>																																	
2. <u>Typha latifolia</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>																																	
3. <u>Setaria parviflora</u>	<u>10</u>	<u>No</u>	<u>FAC</u>																																	
4. <u>Impatiens capensis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>																																	
5. _____	_____	_____	_____																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>90</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																																
1. _____	_____	_____	_____																																	
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR3/2	70	10YR4/4	30	C	PL	clay loam	distinct redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W103A City/County: Marion Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: LB01A-1D1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 10-T14N-R3E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-1% Lat: 39.669595 Long: -86.196103 Datum: GCS NAD 1983
 Soil Map Unit Name Ockley silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This data point is taken within the median for State Road 37. Evidence of mowing and alteration to the drainage were evident at the time of the investigation. This data point passes tests for hydrophytic vegetation, hydric soils, and wetland hydrology and	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <i>Setaria parviflora</i>	50	Yes	FAC	
2. <i>Schedonorus arundinaceus</i>	50	Yes	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>50</u>	x 3 =	<u>150</u>
FACU species	<u>50</u>	x 4 =	<u>200</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column Totals:	<u>100</u>	(A)	<u>350</u> (B)
Prevalence Index = B/A = <u>3.50</u>			

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/2	100					silty clay	
6-20	10YR4/2	80	10YR4/4	20	D	M	silty clay	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <input checked="" type="checkbox"/>
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Remarks:
 This data point meets the indicators for Depleted Matrix (F3) and can be considered to be within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 This data point has indicators for wetland hydrology and can be considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W103A City/County: Marion Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point LB01A-1W1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 10-T14N-R3E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-2 Lat: 39.669457 Long: -86.196111 Datum: GCS NAD83
 Soil Map Unit Name Ockley silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Data point is within the median of SR 37. Mowing and alteration to the drainage were evident at the time of the investigation.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Cyperus esculentus</u>	55	Yes	FACW	
2. <u>Juncus effusus</u>	25	Yes	OBL	
3. <u>Typha angustifolia</u>	10	No	OBL	
4. <u>Juncus tenuis</u>	10	No	FAC	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>35</u>	x 1 = <u>35</u>
FACW species <u>55</u>	x 2 = <u>110</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>175</u> (B)

Prevalence Index = B/A = 1.75

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/1	100					silty clay	
4-16	10YR4/1	60	10YR4/6	40	C	M	clay loam	prominent redox concentrations
16-20	10YR3/1	80	10YR4/6	20	C	M	clay loam	prominent redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W113A City/County: Marion Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HC01A-1D1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 10-T14N-R3E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 0-1% Lat: 39.698183 Long: -86.182465 Datum: GCS NAD 1983
 Soil Map Unit Name Genesse silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This data point was taken in an edge row between an active agricultural field and a dirt road. The vegetation is likely disturbed due to planting and spraying activities. Data point is located approximately 326 feet north of I-465.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>30</u></td> <td>x 4 =</td> <td align="center"><u>120</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>25</u></td> <td>x 5 =</td> <td align="center"><u>125</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>55</u></td> <td>(A)</td> <td align="center"><u>245</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.45</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>30</u>	x 4 =	<u>120</u>	UPL species	<u>25</u>	x 5 =	<u>125</u>	Column Totals:	<u>55</u>	(A)	<u>245</u> (B)	Prevalence Index = B/A = <u>4.45</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>0</u>	x 2 =	<u>0</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>30</u>	x 4 =	<u>120</u>																																	
UPL species	<u>25</u>	x 5 =	<u>125</u>																																	
Column Totals:	<u>55</u>	(A)	<u>245</u> (B)																																	
Prevalence Index = B/A = <u>4.45</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <u>Solidago canadensis</u> 30 Yes FACU 2. <u>Daucus carota</u> 15 Yes UPL 3. <u>Glycine max</u> 10 No UPL 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover																																				
Vine Stratum (Plot Size: <u>30'</u> radius) 1. _____ 2. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: ___ 2-Dominance Test is >50% ___ 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
					Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																															

Remarks: (Include photo numbers here or on a separate sheet.)
 This point was taken in an edge row along an active soybean field. There are no indicators for hydrophytic vegetation and is not considered to be within a wetland.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/2	100					clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W113A City/County: Marion Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: HC01A-1W1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 10-T14N-R3E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): none
 Slope (%): 0-1 Lat: 39.697752 Long: -86.182694 Datum: GCS NAD 1983
 Soil Map Unit Name Genesse silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This data point was taken in a site that has established on top of asphalt. The site lacks true hydric soil indicators but can be considered problematic due to the layer of asphalt. The site is disturbed due to its location down slope of an interstate right	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Populus heterophylla</u>	10	Yes	OBL	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>78</u> (A/B)																																
2. <u>Salix interior</u>	20	Yes	FACW																																	
3. _____																																				
4. _____																																				
5. _____																																				
	<u>30</u>	= Total Cover																																		
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u>Populus heterophylla</u>	10	Yes	OBL	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td></td> <td style="text-align: right;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>30</u></td> <td>x 1 =</td> <td align="center"><u>30</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>55</u></td> <td>x 2 =</td> <td align="center"><u>110</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>25</u></td> <td>x 4 =</td> <td align="center"><u>100</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>5</u></td> <td>x 5 =</td> <td align="center"><u>25</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>115</u></td> <td>(A)</td> <td align="center"><u>265</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: center; padding-top: 10px;">Prevalence Index = B/A = <u>2.30</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>30</u>	x 1 =	<u>30</u>	FACW species	<u>55</u>	x 2 =	<u>110</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>25</u>	x 4 =	<u>100</u>	UPL species	<u>5</u>	x 5 =	<u>25</u>	Column Totals:	<u>115</u>	(A)	<u>265</u> (B)	Prevalence Index = B/A = <u>2.30</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>30</u>	x 1 =	<u>30</u>																																	
FACW species	<u>55</u>	x 2 =	<u>110</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>25</u>	x 4 =	<u>100</u>																																	
UPL species	<u>5</u>	x 5 =	<u>25</u>																																	
Column Totals:	<u>115</u>	(A)	<u>265</u> (B)																																	
Prevalence Index = B/A = <u>2.30</u>																																				
2. <u>Salix interior</u>	10	Yes	FACW																																	
3. _____																																				
4. _____																																				
5. _____																																				
	<u>20</u>	= Total Cover																																		
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Sorghum halepense</u>	15	Yes	FACU	Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
2. <u>Solidago canadensis</u>	10	Yes	FACU																																	
3. <u>Persicaria sagittata</u>	10	Yes	OBL																																	
4. <u>Persicaria bicornis</u>	10	Yes	FACW																																	
5. <u>Impatiens capensis</u>	10	Yes	FACW																																	
6. <u>Phalaris arundinacea</u>	5	No	FACW																																	
7. <u>Daucus carota</u>	5	No	UPL																																	
8. _____																																				
9. _____																																				
10. _____																																				
	<u>65</u>	= Total Cover																																		
Vine Stratum (Plot Size: <u>30'</u> radius)																																				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																																
2. _____																																				
	<u>0</u>	= Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/1	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>asphalt</u> Depth (inches): <u>6</u>	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 The soils were problematic due to the establishment of the site on top of asphalt. This site has indicators for hydrophytic vegetation and wetland hydrology and can be considered to be within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input checked="" type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 This data point has indicators of a wetland hydrology and is considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W116A City/County: Marion Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: LC03A-1D1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 36-T15N-R3E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-1% Lat: 39.701862 Long: -86.149668 Datum: GCS NAD 1983
 Soil Map Unit Name Udorthents, cut and filled NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: This data point is located on the upland area near the edge of the right of way for the west bound on ramp for East Street to I-465. This data point did not have an indicators for wetland and is considered to be upland. Data point is located approximatel	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)				
1. <i>Cirsium arvense</i>	60	Yes	FACU	
2. <i>Schedonorus arundinaceus</i>	40	Yes	FACU	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>30'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>	
FACW species	<u>0</u>	x 2 =	<u>0</u>	
FAC species	<u>0</u>	x 3 =	<u>0</u>	
FACU species	<u>100</u>	x 4 =	<u>400</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>100</u>	(A)	<u>400</u>	(B)
Prevalence Index = B/A = <u>4.00</u>				

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:

2-Dominance Test is >50%

3-Prevalence Index is <=3

4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/3	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:
 This point did not meet any of the hydric soil indicators and is not considered to be within a wetland area.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 There are no indicators of wetland hydrology present at this point and is not considered to be within a area.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W116A City/County: Marion County Sampling Date: 9/14/2016
 Applicant/Owner: INDOT/HNTB State: Indiana Sampling Point: LC03A-1W1
 Investigator(s): R. Hook, A. Grisel Section, Township, Range: Sec 36-T15N-R3E
 Landform (hillslope, terrace, etc.): roadside Local relief (concave, convex, none): concave
 Slope (%): 0-1% Lat: 39.701902 Long: -86.149537 Datum: GCS NAD 1983
 Soil Map Unit Name Udorthents, cut and filled NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: This site is located along the right of way for the west bound on ramp from East Street to I-465. This point is considered to be within a wetland area. There were no signs of significant disturbance, however the site does appear to be mowed and maintained.	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Total % Cover of:</td> <td style="width:50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>70</u></td> <td>x 1 = <u>70</u></td> </tr> <tr> <td>FACW species <u>25</u></td> <td>x 2 = <u>50</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>95</u> (A)</td> <td><u>120</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.26</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>70</u>	x 1 = <u>70</u>	FACW species <u>25</u>	x 2 = <u>50</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>95</u> (A)	<u>120</u> (B)	Prevalence Index = B/A = <u>1.26</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>70</u>	x 1 = <u>70</u>																			
FACW species <u>25</u>	x 2 = <u>50</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>95</u> (A)	<u>120</u> (B)																			
Prevalence Index = B/A = <u>1.26</u>																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot Size: <u>5'</u> radius)																				
1. <i>Schoenoplectus tabernaemontani</i>	60	Yes	OBL																	
2. <i>Phalaris arundinacea</i>	20	Yes	FACW																	
3. <i>Typha angustifolia</i>	10	No	OBL																	
4. <i>Cyperus esculentus</i>	5	No	FACW																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>95</u> = Total Cover																				
Vine Stratum (Plot Size: <u>30'</u> radius)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 <input type="checkbox"/> 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																				

Remarks: (Include photo numbers here or on a separate sheet.)
 This data point meets hydrophytic vegetation and is considered to be within a wetland.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR2/1	100					silty clay loam	
4-12	10YR3/1	100					silty clay loam	
12-20	10YR4/1	70	10YR4/4	30	C	M	silty clay loam	distinct redox concentrations

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
This data point meets the hydric soil indicator for Depleted Below Dark Surface (A11) and is considered to be within a wetland.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
This data point had 1 inch of surface water present at the time of investigation and is considered to be within a wetland.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W126A City/County: Marion Sampling Date: 7/26/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: LB02A-1D1
 Investigator(s): R. Yeager Section, Township, Range: Sec 10-T14N-R3E
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.664106 Long: -86.188958 Datum: GCS NAD83
 Soil Map Unit Name Whitaker silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>0</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td>x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>10</u></td> <td>x 2 =</td> <td align="center"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>1</u></td> <td>x 3 =</td> <td align="center"><u>3</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>57</u></td> <td>x 4 =</td> <td align="center"><u>228</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>35</u></td> <td>x 5 =</td> <td align="center"><u>175</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>103</u></td> <td>(A)</td> <td align="center"><u>426</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>4.14</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>1</u>	x 3 =	<u>3</u>	FACU species	<u>57</u>	x 4 =	<u>228</u>	UPL species	<u>35</u>	x 5 =	<u>175</u>	Column Totals:	<u>103</u>	(A)	<u>426</u> (B)	Prevalence Index = B/A = <u>4.14</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>10</u>	x 2 =	<u>20</u>																																	
FAC species	<u>1</u>	x 3 =	<u>3</u>																																	
FACU species	<u>57</u>	x 4 =	<u>228</u>																																	
UPL species	<u>35</u>	x 5 =	<u>175</u>																																	
Column Totals:	<u>103</u>	(A)	<u>426</u> (B)																																	
Prevalence Index = B/A = <u>4.14</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u>Platanus occidentalis</u>	<u>2</u>	No	FACW																																	
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>2</u> = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius)																																				
1. <u>Solidago canadensis</u>	<u>55</u>	Yes	FACU																																	
2. <u>Daucus carota</u>	<u>35</u>	Yes	UPL																																	
3. <u>Symphyotrichum racemosum</u>	<u>5</u>	No	FACW																																	
4. <u>Asclepias syriaca</u>	<u>2</u>	No	FACU																																	
5. <u>Rumex crispus</u>	<u>1</u>	No	FAC																																	
6. _____	_____	_____	_____																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>98</u> = Total Cover																																				
Vine Stratum (Plot Size: <u>15'</u> radius)																																				
1. <u>Vitis riparia</u>	<u>3</u>	No	_____																																	
2. _____	_____	_____	_____																																	
<u>3</u> = Total Cover																																				

Hydrophytic Vegetation Indicators:
 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 Also included Rubus sp. 1%

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR4/4	100					silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Slightly higher in elevation than adjacent wetland area.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W126A City/County: Marion Sampling Date: 7/26/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: LB02A-1W1
 Investigator(s): R. Yeager Section, Township, Range: Sec 10-T14N-R3E
 Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave
 Slope (%): 0-1 Lat: 39.664135 Long: -86.189058 Datum: GCS NAD83
 Soil Map Unit Name Whitaker silt loam NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That are OBL, FACW, or FAC: <u>100</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>100</u></td> <td>x 1 =</td> <td align="center"><u>100</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>0</u></td> <td>x 2 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>100</u></td> <td>(A)</td> <td align="center"><u>100</u> (B)</td> </tr> <tr> <td align="center" colspan="4">Prevalence Index = B/A = <u>1.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>100</u>	x 1 =	<u>100</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>100</u>	(A)	<u>100</u> (B)	Prevalence Index = B/A = <u>1.00</u>			
Total % Cover of:		Multiply by:																																		
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Column Totals:	<u>100</u>	(A)	<u>100</u> (B)																																	
Prevalence Index = B/A = <u>1.00</u>																																				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																																				
Herb Stratum (Plot Size: <u>5'</u> radius) 1. <u>Typha latifolia</u> 95 Yes OBL 2. <u>Asclepias incarnata</u> 5 No OBL 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ _____ = Total Cover				Hydrophytic Vegetation Indicators: ___ 1-Rapid Test for Hydrophytic Vegetation: <input checked="" type="checkbox"/> 2-Dominance Test is >50% <input checked="" type="checkbox"/> 3-Prevalence Index is <=3 ___ 4-Morphological Adaptation ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																																
Vine Stratum (Plot Size: <u>15'</u> radius) 1. _____ 2. _____ _____ = Total Cover					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																															

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR3.5/2	98	5YR5/6	2	C	M	silty clay loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)
	<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other Soil (Explain in Remarks)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W127A City/County: Marion Sampling Date: 7/26/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: SD02A-1W1
 Investigator(s): R. Yeager Section, Township, Range: Sec 31-T15N-R3E
 Landform (hillslope, terrace, etc.): disturbed highway Local relief (concave, convex, none): concave
 Slope (%): 1-2 Lat: 39.692651 Long: -86.240942 Datum: GCS NAD83
 Soil Map Unit Name Udorthents NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks <u>Wetland contained within ditch along north side of I-465.</u>	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)				
1. <u>Typha latifolia</u>	<u>100</u>	<u>Yes</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>15'</u> radius)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>100</u>	x 1 = <u>100</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u>	(A) <u>100</u> (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation ¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR3/1	100					silt loam	
2-16	10YR4/1	100					silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Coast Prairie Redox (A16)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Dark Surface (S7)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Iron-Manganese Masses (F12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Other Soil (Explain in Remarks)
<input type="checkbox"/> 2 cm Muck (A10)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____

Hydric Soil present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water Stained Leaves (B9)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> True Aquatic Plants (B14)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: I-69 Section 6 Wetland S6W128A City/County: Marion Sampling Date: 7/26/2017
 Applicant/Owner: INDOT/Lochmueller State: Indiana Sampling Point: SD01A-1W1
 Investigator(s): R. Yeager Section, Township, Range: Sec 31-T15N-R3E
 Landform (hillslope, terrace, etc.): disturbed highway Local relief (concave, convex, none): shallow depression
 Slope (%): 0-1 Lat: 39.692916 Long: -86.242193 Datum: GCS NAD83
 Soil Map Unit Name Udorthents NWI classification: N/A

Are climatic/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain Remarks.)
 Are Vegetation , Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No:
 Are Vegetation , Soil or Hydrology naturally problematic? If needed, explain answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot Size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Herb Stratum (Plot Size: <u>5'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juncus torreyi</u>	100	Yes	FACW	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Vine Stratum (Plot Size: <u>15'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>	
FACW species	<u>100</u>	x 2 =	<u>200</u>	
FAC species	<u>0</u>	x 3 =	<u>0</u>	
FACU species	<u>0</u>	x 4 =	<u>0</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column Totals:	<u>100</u>	(A)	<u>200</u>	(B)
Prevalence Index = B/A =				<u>2.00</u>

Hydrophytic Vegetation Indicators:
 ___ 1-Rapid Test for Hydrophytic Vegetation:
 2-Dominance Test is >50%
 3-Prevalence Index is <=3
 ___ 4-Morphological Adaptation¹ (Provide supporting data in Remarks or on a separate sheet)
 ___ Problematic Hydrophytic Vegetation ¹ (Explain)
¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

US Army Corp of Engineers Midwest Region - Version 2.0

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR4/1	95	10YR4/6	5	C	M	silt loam	

¹ Type: C=Concentration, D= Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Muck Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: <u>gravel</u> Depth (inches): <u>6 inches</u>	Hydric Soil present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: