

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

9. Please briefly describe the top two threats to All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana identified above.

1. 1) commercial type fishing devices - trot lines, branch lines, big nets, other passive fishing
2) extreme depredation by overabundant raccoons (on eggs) - maybe by cayotes, too.
3) extant population (if any) far below level for unassisted recovery.

2. 1) nest depredation mainly by raccoons = very low recruitment.
2) nest/embryo/hatchling loss associated with attraction to rowcrop land for nesting.
3) potential loss of adults to road kill and to rogue raccoons (kill adults for their eggs)

3. 1. Insuring that populations maintain critical larva-host connections.

4. Habitat loss for both breeding and feeding/foraging areas. The slough darter prefers a mud or silt bottom with little current velocity and vegetation to deposit eggs on. They also spawn few eggs so reproduction is lower in places where vegetation is lacking. They also compete with other darters for insects and have a high mortality due to stagnation and freezing in the pools they desire to live in.

Total Respondents

4

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

12. Please briefly describe the top two HABITAT threats to All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana identified above.

- 1) channelization
1. 2) drain/cut off oxbow ponds
3) trample sandbars or remove other nesting areas along banks
2. 1) habitat loss through channelization and draining of oxbow ponds and elimination of flows that create point bars on rivers.
2) rowcrop practices: crushing nests during ground insect/weed control; crushing overwinter hatchlings during harvest & early spring plowing
3. 1. Pollutants and toxins are major threats.
3. 2. Habitat degradation may be a factor, since there are large expanses in the Wabash and East Fork White River where relic valves are common, but the living species is absent.
4. Habitat degradation and stream channelization as development continues in the Ohio River Drainage Habitat.

Total Respondents 4

13. What current monitoring efforts by state agencies are you aware of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Yes, these efforts occur	Not aware of these efforts occurring	Response Total
Statewide year-round monitoring conducted by state agencies	0% (0)	100% (5)	5
Statewide once a year monitoring conducted by state agencies	0% (0)	100% (5)	5
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies	0% (0)	100% (5)	5
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies	20% (1)	80% (4)	5
Regional or local year-round monitoring conducted by state agencies	0% (0)	100% (5)	5
Regional or local once a year monitoring conducted by state agencies	0% (0)	100% (5)	5
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies	40% (2)	60% (3)	5
Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by state agencies	60% (3)	40% (2)	5
		Total Respondents	40

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

14. What current monitoring efforts by other organizations are you aware of for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Yes, these efforts occur	Not aware of these efforts occurring	Response Total
Statewide year-round monitoring conducted by other organizations	0% (0)	100% (5)	5
Statewide once a year monitoring conducted by other organizations	0% (0)	100% (5)	5
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by other organizations	0% (0)	100% (5)	5
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by other organizations	0% (0)	100% (5)	5
Regional or local year-round monitoring conducted by other organizations	0% (0)	100% (5)	5
Regional or local once a year monitoring conducted by other organizations	0% (0)	100% (5)	5
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by other organizations	0% (0)	100% (5)	5
Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by other organizations	20% (1)	80% (4)	5
	Total Respondents		40

15. How crucial are these monitoring efforts by state agencies for the conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Very crucial	Somewhat crucial	Slightly crucial	Not crucial	Unknown	Response Total
Statewide year-round monitoring conducted by state agencies	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Statewide once a year monitoring conducted by state agencies	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by state agencies	0% (0)	20% (1)	0% (0)	60% (3)	20% (1)	5
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by state agencies	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Regional or local year-round monitoring conducted by state agencies	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Regional or local once a year monitoring conducted by state agencies	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by state agencies	0% (0)	33% (2)	33% (2)	33% (2)	0% (0)	6
Occasional regional or local (less than						

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

once a year and not regularly scheduled)
monitoring conducted by state agencies

Total Respondents 40

16. How crucial are these monitoring efforts by other organizations for the conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Very crucial	Somewhat crucial	Slightly crucial	Not crucial	Unknown	Response Total
Statewide year-round monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Statewide once a year monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Periodic statewide (less than once a year but still regularly scheduled) monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Occasional statewide (less than once a year and not regularly scheduled) monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Regional or local year-round monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Regional or local once a year monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	80% (4)	20% (1)	5
Periodic regional or local (less than once a year but still regularly scheduled) monitoring conducted by other organizations	0% (0)	0% (0)	0% (0)	60% (3)	40% (2)	5
Occasional regional or local (less than once a year and not regularly scheduled) monitoring conducted by other organizations	0% (0)	20% (1)	0% (0)	40% (2)	40% (2)	5
						Total Respondents 40

17. Regional or local state agency monitoring for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. I'm unaware of any. Perhaps some occur coincident with large fish survey.
2. Ask Zack Walker
I believe there was an accidental capture near Shoals
3. IDNR nongame biologist continually monitors fishes and mussels throughout the state, including Yellow Sandshell habitat. Two surveys have been done- ten years apart, completed last year - by IDNR biologists in the Wabash, Tippecanoe, and East Fork White Rivers; results are pending. This is in prime Yellow Sandshell habitat.
4. Blue River (Harrison County)
East Fork White River
West Fork White River

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

Total Respondents

4

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

18. Regional or local monitoring by other organizations for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. I'm unaware of any.
2. none

Total Respondents 2

19. Please list organizations that are monitoring All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. None?
2. IDEM monitors fish communities not particular species; however, the Slough darter has been captured by electrofishing in the Ohio River Drainage Habitat
3. DNR/DFW

Total Respondents 3

20. What are the current monitoring techniques for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Frequently used	Occasionally used	Not used but possible with existing technology and data	Not used and not possible with existing technology and data	Not economically feasible	Unknown	Response Total
Radio telemetry and tracking	0% (0)	0% (0)	50% (2)	0% (0)	0% (0)	50% (2)	4
Modeling	0% (0)	0% (0)	50% (2)	0% (0)	0% (0)	50% (2)	4
Coverboard routes	0% (0)	0% (0)	50% (1)	0% (0)	0% (0)	50% (1)	2
Spot mapping	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (2)	2
Driving a survey route	0% (0)	0% (0)	50% (1)	0% (0)	0% (0)	50% (1)	2
Reporting from harvest, depredation, or unintentional take (road kill, bycatch)	0% (0)	33% (1)	0% (0)	0% (0)	0% (0)	67% (2)	3
Mark and recapture	25% (1)	0% (0)	25% (1)	0% (0)	0% (0)	50% (2)	4
Professional survey/census	25% (1)	50% (2)	0% (0)	0% (0)	0% (0)	25% (1)	4
Volunteer	0% (0)	33% (1)	33% (1)	0% (0)	0% (0)	33% (1)	3

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

survey/census							
Trapping (by any technique)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (3)	3
Representative sites	25% (1)	25% (1)	0% (0)	0% (0)	0% (0)	50% (2)	4
Probabilistic sites	33% (1)	33% (1)	33% (1)	0% (0)	0% (0)	0% (0)	3
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	1
						Total Respondents	39

21. Other monitoring techniques for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

No responses were entered for this question.

Total Respondents 0

22. What one or two monitoring techniques would you recommend for effective conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

- 1) Occasional censusing with very large, heavily bated hoop nets left out overnight.
 - a) do not set during rising waters.
 - b) check within 12 hours.
1. b) check within 12 hours.
- 2) Search for nests in June (after determining any adults present at all) methods used in FL and LA for nests, in AR and LA for capturing adults
- 1) looking for basking individuals with a spotting scope.
2. 2) perhaps use of fyke nets with big leads, or basking traps to estimate numbers after visual spotting determines presence.
1. Systematic monitoring of probabilistic sites (professional).
3. 2. Use of volunteer census/monitoring.
4. Seining or electrofishing representative sites using professionals.
5. ELECTROFISHING CATCH RATES
POPULATION ESTIMATES

Total Respondents 5

23. What current HABITAT inventory and assessment efforts or activities by state agencies are you aware of for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Yes, these efforts occur	No effort that I'm aware of	Response Total
Statewide annual inventory and assessment conducted by state agencies	0% (0)	100% (5)	5
Statewide once a year inventory and assessment conducted by state agencies	0% (0)	100% (5)	5
Periodic statewide (less than once a year but still regularly			

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

scheduled) inventory and assessment conducted by state agencies			
Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	100% (5)	5
Regional or local year-round inventory and assessment conducted by state agencies	0% (0)	100% (5)	5
Regional or local once a year inventory and assessment conducted by state agencies	20% (1)	80% (4)	5
Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies	60% (3)	40% (2)	5
Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies	40% (2)	60% (3)	5
		Total Respondents	40

24.	What current HABITAT inventory and assessment efforts or activities by other organizations are you aware of for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?	Yes, these efforts occur	No effort that I'm aware of	Response Total
	Statewide year-round inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Statewide once a year inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Regional or local year-round inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Regional or local once a year inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
	Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by other organizations	0% (0)	100% (5)	5
			Total Respondents	40

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

25. How crucial are these HABITAT efforts by state agencies for the conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	These efforts are very crucial for this HABITAT	These efforts are somewhat crucial for this HABITAT	These efforts are slightly crucial for this HABITAT	These efforts are not crucial for this HABITAT	Unknown	Response Total
Statewide annual inventory and assessment conducted by state agencies	0% (0)	0% (0)	0% (0)	60% (3)	40% (2)	5
Statewide once a year inventory and assessment conducted by state agencies	0% (0)	0% (0)	0% (0)	60% (3)	40% (2)	5
Periodic statewide (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	0% (0)	20% (1)	40% (2)	40% (2)	5
Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	0% (0)	0% (0)	60% (3)	40% (2)	5
Regional or local year-round inventory and assessment conducted by state agencies	0% (0)	0% (0)	20% (1)	40% (2)	40% (2)	5
Regional or local once a year inventory and assessment conducted by state agencies	0% (0)	0% (0)	20% (1)	40% (2)	40% (2)	5
Periodic regional or local (less than once a year but still regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	20% (1)	80% (4)	0% (0)	0% (0)	5
Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment conducted by state agencies	0% (0)	20% (1)	40% (2)	20% (1)	20% (1)	5
				Total Respondents		40

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

27. Regional or local state agency HABITAT inventory and assessment for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. If any inventory is occurring, it's for water quality or fish contamination.

I am assuming that the governmental division responsible for water pollution control conducts some sampling regarding organic and heavy metal toxins in the water.

2. I'm unclear as to whether there is any survey on silting in or natural changes in river channels

3. IDNR primarily monitors mussel species, making habitat notations. No real habit monitors made. However, Indiana Department of Environmental Management, IDNR Division of Water do monitor water quality (as a component of habitat).

4. BLUE RIVER (HARRISON COUNTY)

Total Respondents 4

28. Regional or local HABITAT inventory and assessment by other organizations for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. If any inventory is occurring, it's for water quality or fish contamination.

2. Occasional grants to universities - ???

3. NONE

Total Respondents 3

29. Please list organizations that are monitoring this HABITAT for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. whoever samples for state water pollution control.
Fish quality? State board of health??

2. IDEM makes assessments of the habitat while doing fish community surveys in the Ohio River Drainage Habitat.

3. DNR/DFW

Total Respondents 3

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

30. What are the current monitoring techniques for All Wildlife in the Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.
If a technique is not applicable to the Alligator snapping turtle (*Macrochelys temmincki*) do not select a response in that row.

	Frequently used	Occasionally used	Not used but possible with existing technology and data	Not used and not possible with existing technology and data	Not economically feasible	Unknown	Response Total
GIS mapping	0% (0)	50% (2)	25% (1)	0% (0)	0% (0)	25% (1)	4
Aerial photography and analysis	0% (0)	25% (1)	0% (0)	0% (0)	0% (0)	75% (3)	4
Systematic sampling	0% (0)	0% (0)	0% (0)	25% (1)	0% (0)	75% (3)	4
Property tax estimates	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
State revenue data	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
Regulatory information	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
Participation in landuse programs	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
Modeling	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
Voluntary landowner reporting	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
Other (please specify below)	0% (0)	33% (1)	0% (0)	0% (0)	0% (0)	67% (2)	3
						Total Respondents	39

31. Other HABITAT inventory and assessment techniques for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

OHEI.

Total Respondents 1

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

32. What one or two HABITAT inventory and assessment techniques would you recommend for effective conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

- High resolution aerial photography DURING LOW WATER - digitized for GIS. locate:
1.
 - 1) Deep river holes with woody debris (favored by adults)
 - 2) health/permanence of oxbow ponds
 - 3) nesting habitat
 2.
 - 1) high resolution aerial photography during low water periods - digitize and use in GIS - re. how lasting are oxbow ponds during droughts.
 - 2) occasional site visits to assess vegetation quality for this herbivorous turtle.
 3.
 1. To look at saturation of potential habitat: with GIS construction of existing potential habitat(based upon known factors)and overlaying the current distribution of the Yellow Sandshell.
 4. QHEI

Total Respondents 4

33. What is the current body of science for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

		Response Total	Response Percent
Complete, up to date and extensive		0	0%
Adequate		2	40%
Inadequate		3	60%
Nonexistent		0	0%
Other (please explain below)		0	0%
Total Respondents		5	

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

- 34.** Please provide a citation (title, author, date, publisher) that would give the best overview All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana, if available. This resource may be used if further detail is needed.

Title =

Author = Minton

Date = 2001

Publisher =

Title = (Numerous internet sites, including USF&W)

Author =

Date =

Publisher =

**Response Response
Total Percent**

Title = A survey of fish communities and aquatic habitats at Indiana's major streams with emphasis on smallmouth bass distribution and abundance

Author = Stuart Shipman

Date = 12/1997

Publisher = DNR/Fisheries section

- 35.** If possible, please provide a second citation (title, author, date, publisher) that would give another good overview of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana. This resource may also be used if further detail is needed.

Title = Freshwater Mussels of the Midwest

Author = Cummings & Mayer

Date = 1992

Publisher = Illinois Natural History Survey

**Response Response
Total Percent**

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

36. What is the current HABITAT body of science for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

		Response Total	Response Percent
Complete, up to date and extensive		0	0%
Adequate		2	0%
Inadequate		2	40%
Nonexistent		0	40%
Other (please explain below)	 not my expertise - look for historical geography/hydrology	1	20%
Total Respondents		5	

37. Please provide a citation (title, author, date, publisher) that would give the best HABITAT overview of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana, if available. This resource may be used if further detail is needed.

Title = ??? Sugar Creek???

Author = ?

Date = late 1970s/early 1980s

Publisher = PhD thesis IU Bloomington

Response
Total Response
Percent

38. If possible, please provide a second citation (title, author, date, publisher) that would give another good HABITAT overview of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana. This resource may also be used if further detail is needed.

	Response Total	Response Percent
Title	0	0%
Author	0	0%
Date	0	0%
Publisher	0	0%
Total Respondents		0

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

39. What are the research needs for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Urgently needed	Greatly needed	Needed	Slightly needed	Not needed	Unknown	Response Total
Life cycle	0% (0)	0% (0)	60% (3)	20% (1)	20% (1)	0% (0)	5
Distribution and abundance	20% (1)	20% (1)	40% (2)	0% (0)	20% (1)	0% (0)	5
Limiting factors (food, shelter, water, breeding sites)	0% (0)	80% (4)	0% (0)	0% (0)	20% (1)	0% (0)	5
Threats (predators/competition, contamination)	60% (3)	20% (1)	0% (0)	0% (0)	20% (1)	0% (0)	5
Relationship/dependence on specific habitats	0% (0)	20% (1)	20% (1)	40% (2)	20% (1)	0% (0)	5
Population health (genetic and physical)	0% (0)	20% (1)	60% (3)	0% (0)	20% (1)	0% (0)	5
Other (please specify below)	0% (0)	0% (0)	50% (1)	0% (0)	0% (0)	50% (1)	2
							Total Respondents
							32

40. Other research needs for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1.
 - 1) cost effectiveness and periodic effective duration of local raccoon elimination
 - 2) socioeconomic impacts of terminating commercial fishing use of commercial equipment in the lower West Fork and Middle East Fork White River.
 - 3) Whether genetic stock from northern Arkansas will suffice for re-introduction - or will farmed stock from AR or LA will suffice.

Total Respondents **1**

41. What are the HABITAT research needs for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Urgently needed	Greatly needed	Needed	Slightly needed	Not needed	Unknown	Response Total
Successional changes	0% (0)	0% (0)	80% (4)	0% (0)	20% (1)	0% (0)	5
Distribution and abundance (fragmentation)	0% (0)	20% (1)	60% (3)	0% (0)	20% (1)	0% (0)	5
Threats (land use change/competition, contamination/global warming)	20% (1)	20% (1)	40% (2)	20% (1)	0% (0)	0% (0)	5
Relationship/dependence on specific site conditions	0% (0)	20% (1)	40% (2)	0% (0)	20% (1)	20% (1)	5
Growth and development of individual components of the habitat	0% (0)	40% (2)	20% (1)	20% (1)	20% (1)	0% (0)	5
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	1

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

Total Respondents 26

42. Other HABITAT research needs for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. Same as on previous panel

Total Respondents 1

43. How well do the following conservation efforts address the threats to All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Very well	Somewhat	Not at all	Not used	Unknown	Response Total
Habitat protection (use below for details)	25% (1)	50% (2)	0% (0)	0% (0)	25% (1)	4
Population management (hunting, trapping)	25% (1)	25% (1)	0% (0)	25% (1)	25% (1)	4
Population enhancement (captive breeding and release)	25% (1)	0% (0)	0% (0)	75% (3)	0% (0)	4
Reintroduction (restoration)	50% (2)	0% (0)	0% (0)	50% (2)	0% (0)	4
Food plots	0% (0)	0% (0)	0% (0)	100% (4)	0% (0)	4
Threats reduction	25% (1)	0% (0)	0% (0)	50% (2)	25% (1)	4
Native predator control	25% (1)	0% (0)	0% (0)	75% (3)	0% (0)	4
Exotic/invasive species control	0% (0)	0% (0)	25% (1)	50% (2)	25% (1)	4
Regulation of collecting	0% (0)	25% (1)	25% (1)	0% (0)	50% (2)	4
Disease/parasite management	0% (0)	0% (0)	0% (0)	0% (0)	100% (4)	4
Translocation to new geographic range	50% (2)	0% (0)	0% (0)	50% (2)	0% (0)	4
Protection of migration routes	0% (0)	25% (1)	0% (0)	0% (0)	75% (3)	4
Limiting contact with pollutants/contaminants	50% (2)	0% (0)	0% (0)	25% (1)	25% (1)	4
Public education to reduce human disturbance	25% (1)	25% (1)	25% (1)	0% (0)	25% (1)	4
Culling/selective removal	0% (0)	0% (0)	25% (1)	50% (2)	25% (1)	4
Stocking	50% (2)	0% (0)	0% (0)	50% (2)	0% (0)	4
Other (please specify below)	0% (0)	0% (0)	50% (1)	0% (0)	50% (1)	2
	Total Respondents					66

44. Other current conservation practices for All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

1. Wildlife species listed as endangered are illegal to take/"collect."
People need to be reminded of this.

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

Total Respondents	1
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Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

45. What one or two specific practices would you recommend for more effective conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

- 1) restock, as too few if any turtles remain
 - 2) end use of commercial fishing equipment
 - 3) Do periodic local removal of raccoons
2. 1. Protection of the habitat against pollutants and toxins.
 - 1) Expand and liberalize the taking of raccoons so as to greatly reduce numbers associated with river cooter habitat. Raccoon reduction used re. sea turtles in FL and endangered Illinois mud turtle in IA, proposed for alligator s. in LA
 - 2) Cease any future channelization plans and restore existing oxbow ponds - provide landowner financial incentive.
 - 3) local restocking where raccoons reduced should hasten delisting criteria.
4. Habitat protection
Threats Reduction

Total Respondents 4

46. How well do the following conservation efforts address the HABITAT threats to All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

	Very well	Somewhat	Not at all	Not used	Unknown	Response Total
Habitat protection through regulation	0% (0)	50% (2)	25% (1)	0% (0)	25% (1)	4
Habitat protection on public lands	0% (0)	75% (3)	0% (0)	0% (0)	25% (1)	4
Habitat protection incentives (financial)	50% (2)	25% (1)	0% (0)	0% (0)	25% (1)	4
Habitat restoration through regulation	25% (1)	50% (2)	0% (0)	0% (0)	25% (1)	4
Habitat restoration on public lands	50% (2)	25% (1)	0% (0)	0% (0)	25% (1)	4
Habitat restoration incentives (financial)	75% (3)	0% (0)	0% (0)	0% (0)	25% (1)	4
Artificial habitat creation (artificial reefs, nesting platforms)	0% (0)	75% (3)	0% (0)	0% (0)	25% (1)	4
Selective use of functionally equivalent exotic species in place of extirpated natives	0% (0)	0% (0)	0% (0)	75% (3)	25% (1)	4
Succession control (fire, mowing)	0% (0)	0% (0)	0% (0)	75% (3)	25% (1)	4
Corridor development/protection	25% (1)	25% (1)	0% (0)	25% (1)	25% (1)	4
Managing water regimes	0% (0)	75% (3)	0% (0)	0% (0)	25% (1)	4
Pollution reduction	25% (1)	50% (2)	0% (0)	0% (0)	25% (1)	4
Protection of adjacent buffer zone	75% (3)	0% (0)	0% (0)	0% (0)	25% (1)	4
Restrict public access and disturbance	25% (1)	25% (1)	25% (1)	0% (0)	25% (1)	4
Land use planning	50% (2)	25% (1)	0% (0)	0% (0)	25% (1)	4
Technical assistance	0% (0)	25% (1)	0% (0)	0% (0)	75% (3)	4

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

Cooperative land management agreements (conservation easements)	75% (3)	0% (0)	0% (0)	0% (0)	25% (1)	4
Other (please specify below)	0% (0)	0% (0)	0% (0)	0% (0)	100% (1)	1
Total Respondents						69

47. Other current HABITAT conservation practices All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana.

No responses were entered for this question.

Total Respondents 0

48. What one or two specific HABITAT practices would you recommend for more effective conservation of All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat in Indiana?

1.
 - 1) Encourage return to natural meander channel (within flood control).
 - 2) Let dead trees in river stay; perhaps add some.
 - 3) rehabilitate drained oxbow ponds through conservation easment.
2.
 - 1) oxbow pond conservation easements and restoration - prime feeding habitat.
 - 2) enhance natural river channel evolution including point bar development and snags (downed trees in the water) - provides basking sites and nesting habitat away from row crop agriculture
3.
 1. Manage water quality and pollutants.
4.
 2. Protection of adjacent buffer zones.
4. Habitat protection

Total Respondents 4

49. Do you have any additional comments or information on All Wildlife in Wadeable/Large Rivers in the Interior River Lowland of the Ohio River Drainage Habitat that you feel would be useful in the development of the Indiana Comprehensive Wildlife Strategy?

1.
 - 1) Convince DNR that some restocking will be necessary (only known capture in Indiana in last 50 years died on DNR watch).
 - 2) Convince DNR that raccoon population reduction will be critical during early rehab (and important later on - increase recreational harvest).
 - 3) Put lower West Fork and Middle East Forks White River off limits to commercial fishing. Forget about Ohio R & lower Wabash (State cannot control).

2.

As with alligator snapping turtle, persuade DNR to take measures for significant raccoon reduction in/near river cooter habitat. Assuming cooter populations then increase, raccoon control remains desirable but less important.

This species is herbivorous and thus not attracted to fish bait. Use of giant nets in oxbow ponds would trap cooters, which might then drown.

3.

Yellow Sandshell appear to be a resilient species that are relatively tolerant of some silt; it has expanded beyond rivers and streams and has taken up residence in reservoirs. If we afford it the broad protection (i.e., against pollutants and habitat destruction) that we attempt to give to mussels in general and to other components of our wildlife and environment, it should do well.

Appendix E-20: Rivers and Streams Ohio River Drainage Interior River Lowland
Wadeable/Large River

4. IDEM has captured slough darters on the following streams: Turkey Cr (Clay Co.), Patoka R and N Fk Little Pigeon Cr (Dubois Co.), Patoka R and Yellow Cr as well as Smith Fk Pigeon Cr (Gibson Co.), Bruster Br and Flat Cr (Pike Co.), E Fk Crooked Cr (Spencer Co.), Busseron Cr (Sullivan Co.), and Lost Cr, Otter Cr, N Br Otter Cr in Vigo Co.
5. no

Total Respondents 5