

HAYLAND GRASSLAND HABITAT NARRATIVE

Habitat description

Grasslands/herbaceous habitats are areas dominated by upland grasses and forbs. In rare cases, herbaceous cover is less than 25 percent, but exceeds the combined cover of the woody species present. These areas are not subject to intensive management, but they are often utilized for grazing.

Problems affecting species and habitats

Species threats

Respondents ranked threats to wildlife in hayland grassland habitats in Indiana:

Rank	Threats to wildlife in hayland grassland habitats
1 (tie)	Habitat loss (breeding range)
1 (tie)	Habitat loss (feeding/foraging areas)
2	Unintentional take/direct mortality (e.g., vehicle collisions, power line collisions, by-catch, harvesting equipment, land preparation machinery)
3 (tie)	Predators (native or domesticated)
3 (tie)	Small native range (high endemism)
4 (tie)	Bioaccumulation of contaminants
4 (tie)	Degradation of movement/migration routes
4 (tie)	Viable reproductive population size or availability
5 (tie)	Invasive/non-native species
5 (tie)	Near limits of natural geographic range
5 (tie)	Large home range requirements
5 (tie)	Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)

A respondent listed another threat to wildlife in hayland grassland habitats in Indiana:

- Early harvesting of hay crops

Respondents described top threats to wildlife in hayland grassland habitats in Indiana (not ranked):

- Habitat loss and fragmentation create small, isolated patches where nest predation and brood parasitism tend to increase
- The timing and frequency of haying, as well as the cover type (alfalfa) can affect negatively nest success and limit productivity

Appendix F-53: Haylands

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threats to wildlife in hayland grassland habitat. There were no responses.

Habitat threats

Respondents ranked threats to hayland grassland habitats in Indiana:

Rank	Threats to hayland grassland habitats
1 (tie)	Habitat fragmentation
1 (tie)	Agricultural/forestry practices
1 (tie)	Commercial or residential development (sprawl)
1 (tie)	Counterproductive financial incentives or regulations
2	Habitat degradation
3 (tie)	Climate change
3 (tie)	Successional change
4 (tie)	Residual contamination (persistent toxins)
4 (tie)	Point source pollution (continuing)
5 (tie)	Invasive/non-native species
5 (tie)	Non-point source pollution (sedimentation and nutrients)
5 (tie)	Diseases (of plants that create habitat)
5 (tie)	Mining/acidification
5 (tie)	Drainage practices (stormwater runoff)

Respondents noted no other additional threats to hayland grassland habitats in Indiana.

Respondents listed top threats to hayland grassland habitats in Indiana (not ranked):

- Conversion of hayfields to row crop or urban cover
- Frequent haying, mowing or overgrazing

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threats to hayland grassland habitat. There were no responses.

Additional research and survey efforts

Current body of research

Species research

Appendix F-53: Haylands

Respondents indicated that the current body of science for wildlife in hayland grassland habitats in Indiana is inadequate.

Respondents identified the following citations (title, author, date, publisher) that would give the best overview of wildlife in hayland grassland habitats in Indiana.

Title = Atlas of Breeding Birds of Indiana;
Author = J.S. Castrale, E.M. Hopkins, & C.E. Keller;
Date = 1998;
Publisher = IDNR

Title = Effects of management practices on grassland birds: Bobolink;
Author = Dechant, J.A., M.L. Sondreal, D.H. Johnson, L.D. Igl, C.M. Goldade, A.L. Zimmerman and B.R. Euliss;
Date = 2001;
Publisher = Northern Prairie Wildlife Research Center

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the current body of science for wildlife in hayland grassland habitat. There were no responses.

Habitat research

Respondents indicated that the current body of science for hayland grassland habitats in Indiana is inadequate.

Respondents did not identify citations (title, author, date, publisher) that would give the best overview of hayland grassland habitats in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the current body of science for hayland grassland habitat. There were no responses.

Research needs

Species research

The respondent indicated that "distribution and abundance" research for wildlife in hayland grassland habitats in Indiana is "greatly needed." The respondent stated that the following research is "needed" (not ranked):

- Limiting factors (food, shelter, water, breeding sites)
- Threats (predators/competition, contamination)

The respondent listed the following as "slightly needed" for wildlife in hayland grassland habitats in Indiana: "relationship/dependence on specific habitats."

Respondents cited no additional research needs for wildlife in hayland grassland habitats in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research for wildlife in hayland grassland habitat. There were no responses.

Appendix F-53: Haylands

Habitat research

Respondents agreed that the following research is “greatly needed” for hayland grassland habitats in Indiana (not ranked):

- Distribution and abundance (fragmentation)
- Threats (land use change/competition, contamination/global warming)

The respondent listed an additional research need for hayland grassland habitats in Indiana:

- Timing and frequency of haying and other agricultural practices

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research need for hayland grassland habitat. There were no responses.

Conservation actions necessary

Species actions

The respondent stated that the following conservation efforts address threats to wildlife in hayland grassland habitats in Indiana “very well” (not ranked):

- Habitat protection
- Threats reduction
- Public education to reduce human disturbance

The respondent stated that other current conservation practices for wildlife in hayland grassland habitats in Indiana include: “Restoration of native grasslands and increased enrollment in the Conservation Reserve Program provide refuges from agricultural disturbances (provided the proper vegetation structure is maintained.”

The respondent recommended the following practice for more effective conservation of wildlife in hayland grassland habitats in Indiana:

- Time haying and grazing around the breeding cycle before May and after June

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the practice for more effective conservation of wildlife in hayland grassland habitat. There were no responses.

Habitat actions

The respondent stated that the following conservation efforts address threats to hayland grassland habitats in Indiana “very well” (not ranked):

- Habitat protection through regulation
- Habitat protection on public lands
- Habitat protection incentives (financial)
- Habitat restoration through regulation
- Habitat restoration on public lands
- Habitat restoration incentives (financial)
- Succession control (fire, mowing)
- Cooperative land management agreements (conservation easements)

Appendix F-53: Haylands

The respondent stated that the following conservation efforts address habitat threats “somewhat” (not ranked):

- Selective use of functionally equivalent exotic species in place of extirpated natives
- Land use planning

Respondents offered no other current conservation practices for hayland grassland habitats in Indiana.

The respondent recommended the following practice for more effective conservation of hayland grassland habitats in Indiana (not ranked):

- Provide incentives to prevent landowners from haying or grazing during the breeding season
- Educate landowners about the importance of their land to the persistence of wildlife species

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the practice for more effective conservation of hayland grassland habitat. There were no responses.

Proposed plans for monitoring

Current monitoring

Species monitoring

Respondents were aware of current monitoring efforts by state agencies for wildlife in hayland grassland habitats in Indiana (not ranked):

- Regional or local once-a-year monitoring
- Periodic statewide (less than once a year but still regularly scheduled) monitoring
- Occasional statewide (less than once a year and not regularly scheduled) monitoring
- Periodic regional or local (less than once a year but still regularly scheduled) monitoring
- Regional or local year-round monitoring
- Occasional regional or local (less than once a year and not regularly scheduled) monitoring

Respondents were aware of monitoring conducted by other organizations for wildlife in hayland grassland habitats in Indiana (not ranked):

- Occasional statewide (less than once a year and not regularly scheduled) monitoring
- Regional or local year-round monitoring
- Regional or local once-a-year monitoring
- Periodic regional or local statewide (less than once a year and still regularly scheduled) monitoring
- Occasional regional or local (less than once a year and not regularly scheduled) monitoring

Respondents ranked the importance of monitoring efforts by state agencies for wildlife conservation in hayland grassland habitats in Indiana:

Appendix F-53: Haylands

Rank	Monitoring efforts by state agencies for wildlife in hayland grassland habitats
1	Occasional statewide (less than once a year and not regularly scheduled) monitoring
2 (tie)	Stateside once-a-year monitoring
2 (tie)	Periodic regional or local (less than once a year but still regularly scheduled) monitoring
2 (tie)	Regional or local year-round monitoring
2 (tie)	Regional or local once-a-year monitoring
2 (tie)	Occasional regional or local (less than once a year and not regularly scheduled) monitoring
3 (tie)	Statewide year-round monitoring
3 (tie)	Periodic statewide (less than once a year but still regularly scheduled) monitoring

Respondents ranked the importance of monitoring efforts by other organizations for wildlife conservation in hayland grassland habitats in Indiana:

Rank	Monitoring efforts by other organizations for wildlife in hayland grassland habitats
1 (tie)	Regional or local once-a-year monitoring
1 (tie)	Occasional regional or local (less than once a year and not regularly scheduled) monitoring
2 (tie)	Occasional statewide (less than once a year and not regularly scheduled) monitoring
2 (tie)	Stateside once-a-year monitoring
2 (tie)	Periodic statewide (less than once a year but still regularly scheduled) monitoring
2 (tie)	Regional or local once-a-year monitoring
2 (tie)	Periodic regional or local (less than once a year but still regularly scheduled) monitoring

A respondent listed "IDNR's Nongame and Endangered Wildlife Program" as a state agency that does regional or local monitoring for wildlife in hayland grassland habitats in Indiana.

A respondent listed the following regional or local monitoring by other organizations for wildlife in hayland grassland habitats in Indiana (not ranked):

- Breeding Bird Survey routes are scattered throughout the state depending on volunteer participation
- Local intensive surveys, nest monitoring or mark-recapture studies

Appendix F-53: Haylands

A respondent listed organizations that monitor wildlife in hayland grassland habitats in Indiana (not ranked):

- Indiana Academy of Science
- Indiana Audubon Society
- Local chapters of NAS worked with IDNR to complete Breeding Bird Atlas (1985-1990)
- USGS Bird Banding Lab coordinates BBS
- Universities such as Purdue complete local research projects

Respondents ranked current monitoring techniques for wildlife in hayland grassland habitats in Indiana:

Monitoring techniques for wildlife in hayland grassland habitats	Used	Not used but possible with existing technology or data	Not economically feasible
Radio tracking and telemetry	--	X	--
Modeling	X	--	--
Spot mapping	X	X	--
Driving a survey route	X	--	--
Mark and recapture	X	--	--
Professional survey/census	X	X	--
Volunteer survey/census	X	X	--
Trapping (by any technique)	X	X	--
Representative sites	--	X	--
Probabilistic sites	--	X	--

Respondents listed no other monitoring techniques for wildlife in hayland grassland habitats in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the monitoring techniques for wildlife in hayland grassland habitat. There were no responses.

Habitat inventory and assessment

A respondent was aware of current inventory and assessment efforts conducted by state agencies for hayland grassland habitats in Indiana (not ranked):

- Statewide annual inventory and assessment
- Periodic statewide (less than once a year but still regularly scheduled) monitoring
- Occasional statewide (less than once a year and not regularly scheduled) monitoring

Appendix F-53: Haylands

- Regional or local year-round monitoring

A respondent was aware of the following inventory and assessment efforts conducted by other organizations for hayland grassland habitats in Indiana (not ranked):

- Statewide year-round inventory and assessment
- Statewide once-a-year inventory and assessment
- Periodic statewide (less than once a year and still regularly scheduled) inventory and assessment
- Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment
- Regional or local year-round inventory and assessment
- Regional or local once-a-year inventory and assessment
- Periodic regional or local statewide (less than once a year and still regularly scheduled) inventory and assessment
- Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment

The respondent listed no efforts by state agencies or other organizations as “very crucial” for conservation of hayland grassland habitats in Indiana. The respondent listed the following efforts conducted by state agencies as “somewhat crucial” (not ranked):

- Statewide annual inventory and assessment
- Periodic statewide (less than once a year and still regularly scheduled) inventory and assessment

A respondent listed regional or local inventory and assessment by state agencies for hayland grassland habitats in Indiana as follows (not ranked):

- Annual and 5-year census
- County level reports of acreage planted to various hay cover types and acreage harvested

Respondents offered no information on regional or local inventory and assessment by other organizations for hayland grassland habitats in Indiana.

A respondent listed USDA National Agricultural Statistics Services as an organization that monitors hayland grassland habitats in Indiana.

A respondent stated that these current inventory and assessment techniques are “frequently used” for hayland grassland habitats in Indiana (not ranked):

- GIS mapping
- Participation in land use programs

The respondent ranked “aerial photography and analysis” as “occasionally used,” but didn’t comment on the feasible or possible use of other listed techniques.

Respondents offered no other inventory and assessment techniques for hayland grassland habitats in Indiana.

Appendix F-53: Haylands

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the inventory and assessment techniques for hayland grassland habitat. There were no responses.

Recommended monitoring

Species monitoring

Respondents recommended the following monitoring techniques for effective conservation of wildlife in hayland grassland habitats in Indiana (not ranked):

- Point counts during breeding season
- Establish more Breeding Bird Survey routes
- Conduct point counts on private lands. If possible, estimate nest success

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the monitoring techniques for effective conservation of wildlife in hayland grassland habitat. There were no responses.

Habitat inventory and assessment

A respondent recommended the following inventory and assessment technique for effective conservation of hayland grassland habitats in Indiana:

- Survey of hay harvest dates and frequencies each year

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the inventory and assessment techniques for effective conservation of hayland grassland habitat. There were no responses.