

FARM BILL PROGRAM GRASSLAND HABITATS NARRATIVE

Habitat description

Upland grasses and forbs dominate *grasslands/herbaceous habitats*. 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 Farm Bill Program grassland habitats in Indiana:

Rank	Threats to wildlife in Farm Bill Program grassland habitats
1	Habitat loss (breeding range)
2	Habitat loss (feeding/foraging areas)
3	Predators (native or domesticated)
4	Viable reproductive population size or availability
5	Invasive/non-native species
6 (tie)	Bioaccumulation of contaminants
6 (tie)	High sensitivity to pollution
6 (tie)	Unintentional take/direct mortality (e.g., vehicle collisions, power line collisions, by-catch, harvesting equipment, land preparation machinery)
7 (tie)	Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
7 (tie)	Degradation of movement/migration routes
8 (tie)	Large home range requirements
8 (tie)	Small native range (high endemism)
8 (tie)	Specialized reproductive behavior or low reproductive rates
8 (tie)	Diseases/parasites (of the species itself)
9 (tie)	Dependence on other species (mutualism, pollinators)
9 (tie)	Regulated hunting/fishing pressure (too much)
9 (tie)	Near limits of natural geographic range

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Respondents listed other threats to wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- Impacts of herbicides and pesticides drifting over from nearby agricultural lands is unknown
- Mowing in June, July and August

Respondents listed top threats to wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- Loss of farm programs
- Loss or shortening of primary nesting season dates established by USDA. Mowing and haying during quail nesting season would be allowed on enrolled acreage if these dates were eliminated or shortened
- Loss of quality nesting and brood habitat (including mowing during breeding season)
- Habitat fragmentation

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threats to wildlife in Farm Bill Program habitats. Their responses included:

- Haying and Mowing during the nesting season could lead to waterfowl nest destruction.
- Yes. Continuation of positive farm programs, such as CRP, are critical to the farmland wildlife guild. At the same time, disturbance during the nesting season, and alterations of the nesting season dates must be minimized to insure the conservation benefits of these programs for wildlife. In addition, use of non-native invasive plant species should be avoided wherever possible, and replaced with appropriate native species.
- Yes, but I think non-native species such as fescue needs to be ranked higher.

Habitat threats

Respondents ranked threats to Farm Bill Program grassland habitats in Indiana:

Rank	Threats to Farm Bill Program grassland habitats
1 (tie)	Habitat fragmentation
1 (tie)	Agricultural/forestry practices
2	Habitat degradation
3	Successional change
4	Commercial or residential development (sprawl)
5	Counterproductive financial incentives or decisions
6	Residual contamination (persistent toxins)
7	Invasive/non-native species
8 (tie)	Mining/acidification
8 (tie)	Nonpoint source pollution (sedimentation and

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nutrients)

8 (tie) Point source pollution (continuing)

A respondent listed other threats Farm Bill Program grassland habitats in Indiana (not ranked):

- If Farm Bill programs (e.g. CRP) were to be eliminated, the negative effects on Indiana's northern bobwhite population would be substantial

Respondents described top threats to Farm Bill Program grassland habitats in Indiana (not ranked):

- Habitat fragmentation and urban sprawl
 - Clean farming
- Early mowing and haying
 - During primary nesting season – These activities are not allowed until after July 15 but mowing during late July and early August still destroys some nests and young
- Loss of large areas of warm season grasses
- Succession of grassland habitat is a major threat if mid-contract activities are not performed

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threats to Farm Bill Program habitats. Their responses included:

- Impacts of herbicides and pesticides could be a big threat to grasslands.

Invasive species may be more of a problem than development on Farm Bill grasslands. Farm Bill areas are usually protected by some type of easement which does not allow any development.

- Yes. The greatest threats are from mowing or haying during the nesting season, and from lack of appropriate disturbance (e.g. fire, discing) at regular intervals (4-5 years) to maintain early successional grassland habitat. Additional threats include the use of inappropriate plantings (e.g. fescue) and seeding rates that are too heavy for most early successional species.
- Yes

Additional research and survey efforts

Current body of research

Species research

One respondent said that the current body of science for wildlife in Farm Bill Program grassland habitats in Indiana is adequate; another respondent said that science is non-existent.

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

Title = HESPS in mine land MS Thesis;

Author = Travis Devault;

Date = 2000;

Publisher = Indiana State Univ

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Title = Forest and Grassland Bird Productivity;

Author = Robb et. al.;

Date = 1998;

Publisher = USFWS internal report

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 Farm Bill Program habitats. Their responses included:

- Not really.....neither of those studies even addresses Farm Bill programs. Additional publications include:

Hohman, W.L, and D.J. Halloum, ed. 2000. A comprehensive review of Farm Bill contributions to wildlife conservation, 1985-2000. USDA Natural Resources Conservation Service Technical Report USDA/NRCS/WHMI-2000.

Best, L.B. et. al. 1997. Bird abundance and nesting in CRP fields and cropland in the Midwest: A regional approach. Wildl. Soc. Bull. 25:864-877.

Herkert. J.R. 1997. Population trends of the Henslow's sparrow in relation to the Conservation Reserve Program in Illinois, 1975-1995. Wildl. Soc. Bull. 26:227-231.

McCoy, T.D., et.al. 1999. Conservation Reserve Program: Source or sink habitat for grassland birds in Missouri. J. Wildl. Manage. 63:530-538.

Roseberry, J. L. and L.M. David. 1994. The Conservation Reserve Program and northern bobwhite population trends in Illinois. Trans. of the Ill. State Acad. of Science, 87:61-70.

Ryan, M.R., et.al. 1998. The impact of CRP on avian wildlife: A review. J. of Prod. Agric. 11:61-66.

- No, I am sure a bibliographic search would turn up more data.

Habitat research

Respondents said that the current body of science for Farm Bill Program grassland habitats in Indiana is inadequate.

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

Title = Strip mine grassland birds;

Author = Travis Devault;

Date = 2000;

Publisher = Indiana State Univ.

Title = Vegetation management practices on conservation reserve program fields to improve northern bobwhite habitat quality;

Author = Greenfield, K. C.; W. B. Burger Jr.; M. J. Chamberlain, E. W. Kurzejeski;

Date = 2002;

Publisher = Wildlife Society Bulletin

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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 Farm Bill Program habitats. Their responses included:

- Again, the above list is very limited. Some of the publications in the previous question address habitat issues as well.
- No, I am sure a bibliographic search would turn up more data.

Research needs

Species research

Respondents ranked research needs for wildlife in Farm Bill Program grassland habitats in Indiana:

Rank	Research needs for wildlife in Farm Bill Program grassland habitats
1	Relationship/dependence on specific habitats
2 (tie)	Limiting factors (food, shelter, water, breeding sites)
2 (tie)	Threats (predators/competition, contamination)
3	Population health (genetic and physical)
4 (tie)	Life cycle
4 (tie)	Distribution and abundance

Respondents listed other research needs for wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- How to reduce clean farming and increase field size
- Research to determine the extent to which mowing and haying negatively impact production following the end of the primary nesting season (as defined by USDA)
- Following July 15 in Indiana, landowners can mow or hay enrolled lands. A substantial proportion of bobwhites still nest at that time

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research needs for wildlife for Farm Bill Program habitats. Their responses included:

- Need to know other species nesting at this time.
- No. For Farm Bill programs to really have a landscape level impact on wildlife, there needs to be a strategic approach to program enrollment that takes into account the species needs on a landscape scale, and more effort needs to be undertaken to identify the level of

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intensity needed for program enrollment in a given landscape to affect a population change in the target species.

- Yes

Habitat research

Respondents ranked research needs for Farm Bill Program grassland habitats in Indiana:

Rank	Research needs for Farm Bill Program grassland habitats
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- 1 (tie) Successional changes
- 1 (tie) Distribution and abundance (fragmentation)
- 1 (tie) Relationship/dependence on specific site conditions
- 1 (tie) Growth and development of individual components of the habitat
- 2 Threats (land use change/competition, contamination/global warming)

Respondents listed other research needs for Farm Bill Program grassland habitats in Indiana (not ranked):

- Seeding mixtures and mid-contract management activities currently utilized on Farm Bill lands need to be evaluated to determine their value to bobwhite nesting and brood rearing
- How to create and maintain quality grassland habitat on a permanent basis

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research needs for Farm Bill Program habitats. Their responses included:

- Need to determine best mid-contract management for all species in grassland.
- More research needs to be done on the level of habitat disturbance through mid-contract management on CRP to best impact early successional species such as bobwhite.
- Yes

Conservation actions necessary

Species actions

Respondents ranked conservation efforts by how well they address threats to wildlife in Farm Bill Program grassland habitats in Indiana:

Rank	Conservation efforts for wildlife in Farm Bill Program grassland habitats
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- 1 Protection of migration routes
- 2 (tie) Public education to reduce human disturbance
- 2 (tie) Exotic/invasive species control
- 3 Habitat protection
- 4 (tie) Food plots
- 4 (tie) Threats reduction
- 4 (tie) Native predator control
- 4 (tie) Limiting contact with pollutants/contaminants

Respondents listed no other current conservation practices for wildlife in Farm Bill Program grassland habitats in Indiana.

Respondents recommended the following practices for more effective conservation of wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- Require mid-contract management (e.g., disking or burning) between three to five years after establishment on all Farm Bill acreage planted to grasses
- Protection of grassland habitat
- Restoration of habitat

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the conservation practices for wildlife for Farm Bill Program habitats. Their responses included:

- Yes
- Additional funding is needed for Farm Bill Programs such as WHIP, WRP, and GRP to adequately address landowner requests for more assistance.

Habitat actions

Respondents ranked conservation efforts by how well they address threats to Farm Bill Program grassland habitats in Indiana:

Rank	Conservation efforts for Farm Bill Program grassland habitats
1 (tie)	Habitat protection on public lands
1 (tie)	Habitat restoration on public lands
1 (tie)	Land use planning
2 (tie)	Habitat restoration incentives (financial)
2 (tie)	Cooperative land management agreements (conservation easements)
3 (tie)	Restrict public access and disturbance

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- 4 Succession control (fire, mowing)
- 5 (tie) Habitat protection through regulation
- 5 (tie) Habitat restoration through regulation
- 5 (tie) Habitat protection incentives (financial)
- 5 (tie) Protection of adjacent buffer zone
- 5 (tie) Technical assistance
- 5 (tie) Artificial habitat creation (artificial reefs, nesting platforms)
- 5 (tie) Selective use of functionally equivalent exotic species in place of extirpated natives
- 5 (tie) Corridor development/protection
- 5 (tie) Pollution reduction

A respondent listed another current conservation practice for Farm Bill Program grassland habitats in Indiana:

- Prevent early mowing and haying of CRP lands or other habitat

Respondents recommended the following practices for more effective conservation of Farm Bill Program grassland habitats in Indiana (not ranked):

- Making mid-contract management mandatory on enrolled acreage
- Protection and restoration of habitat
- Preventing early mowing and haying

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the practices for more effective conservation of Farm Bill Program habitats. Their responses included:

- Need to be concerned about private lands. Farm Bill programs almost exclusively deal with private lands.
- It's assumed that the #1 threat in the table above is habitat protection and restoration on "private" land, not "public" land. Since Farm Bill activities occur almost exclusively on private land, that is where the focus of the effort should be. The three main practices listed above are probably the most important.
- Yes

Proposed plans for monitoring

Current monitoring

Species monitoring

Respondents were aware of these monitoring efforts conducted by state agencies for wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- Statewide once-a-year monitoring

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- Periodic statewide (less than once a year and still regularly scheduled) monitoring
- 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

Respondents were aware of these monitoring efforts conducted by other organizations for wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- Statewide once-a-year monitoring
- Periodic statewide (less than once a year and still regularly scheduled) monitoring
- Occasional statewide (less than once a year and not regularly scheduled) 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 monitoring efforts conducted by state agencies by how well they contribute to wildlife conservation in Farm Bill Program grassland habitats in Indiana:

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

Respondents ranked monitoring efforts conducted by other organizations by how well they contribute to wildlife conservation in Farm Bill Program grassland habitats in Indiana:

Rank	Monitoring by other organizations for wildlife in Farm Bill Program grassland habitats
1	Statewide once-a-year monitoring
2 (tie)	Regional or local once-a-year monitoring
2 (tie)	Periodic statewide (less than once a year but

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still regularly scheduled) monitoring

- 2 (tie)** Periodic regional or local (less than once a year but still regularly scheduled) monitoring
- 2 (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

Respondents listed regional or local monitoring by state agencies for wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- The Indiana Division of Fish and Wildlife conducts a biennial mailing survey to small game hunters to estimate harvest. Additionally, the division conducts an annual spring whistle counts to provide an index to the spring breeding population. However, neither of these methods focuses directly on Farm Bill habitats
- Interlake Property, Division of Outdoor Recreation ownership
- Surveys on state properties and through efforts such as the Breeding Bird Atlas projects

Respondents listed regional or local monitoring by other organizations for wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- The National Audubon Society conducts the Breeding Bird Survey, and observers count the number of bobwhites seen along with other bird species. Again this survey is not directly focused on Farm Bill habitats
- BBS routes and work done on strip mine lands in southwest Indiana and Big Oaks National Wildlife Refuge

Respondents listed organizations that monitor wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- IN Department of Natural Resources
- U.S. Fish and Wildlife Service
- The Nature Conservancy
- USDA Forest Service
- Indiana State University

Respondents considered current monitoring techniques for wildlife in Farm Bill Program grassland habitats in Indiana:

Monitoring techniques for wildlife in Farm Bill Program grassland habitats	Used	Not used but possible with existing technology or data	Not economically feasible
Radio tracking and telemetry	--	X	X
Modeling	X	--	--

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Spot mapping	X	X	X
Driving a survey route	X	X	--
Reporting from harvest, depredation, or unintentional take (road kill, by-catch)	X	--	--
Mark and recapture	X	X	X
Professional survey/census	X	--	--
Volunteer survey/census	X	X	--
Trapping (by any technique)	X	X	X
Representative sites	X	--	--
Probabilistic sites	X	--	--

A respondent listed "nest monitoring" as another monitoring technique for wildlife in Farm Bill Program 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 Farm Bill Program habitats. Their responses included:

- Yes
- Yes

Habitat inventory and assessment

Respondents were aware of the following inventory and assessments by state agencies for Farm Bill Program grassland habitats in Indiana (not ranked):

- 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 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

Respondents were aware of the following inventory and assessments by other organizations for Farm Bill Program 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

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- 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

Respondents ranked inventory and assessment efforts by state agencies by how well they conserve Farm Bill Program habitats in Indiana:

Rank	Inventory and assessment by state agencies for wildlife in Farm Bill Program grassland habitats
1	Statewide once-a-year inventory and assessment
2 (tie)	Periodic statewide (less than once a year and still regularly scheduled) inventory and assessment
2 (tie)	Regional or local once-a-year inventory and assessment
2 (tie)	Periodic regional or local statewide (less than once a year and still regularly scheduled) inventory and assessment
2 (tie)	Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment
3 (tie)	Statewide annual inventory and assessment
3 (tie)	Occasional statewide (less than once a year and not regularly scheduled) inventory and assessment
3 (tie)	Regional or local year-round inventory and assessment

Respondents listed the following inventory and assessment efforts by other organizations as crucial to how they conserve Farm Bill Program 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 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

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Respondents listed regional or local inventory and assessment by state agencies for Farm Bill Program grassland habitats in Indiana (not ranked):

- Interlake property
- Habitats on state areas are surveyed occasionally for quality and quantity
- Indiana Division of Fish and Wildlife will be initiating some type of bobwhite monitoring program to determine success of the newest continuous CRP (CP33)

Respondents listed regional or local inventory and assessment by other organizations for Farm Bill Program grassland habitats in Indiana (not ranked):

- Farm Services Agency keeps track of location and acreage associated with each contract
- U.S. Fish and Wildlife Service, The Nature Conservancy and Indiana State University have surveyed quality and quantity of habitats for HESPs
- Farm Services Agency monitors acreage and location of tracts enrolled in each U.S. Department of Agriculture program
- Natural Resources Conservation Service provides technical support or administers most farm programs and conducts regular inspections

Respondents listed organizations that monitor Farm Bill Program grassland habitats in Indiana (not ranked):

- Indiana Division of Fish and Wildlife
- Farm Services Agency
- Natural Resources Conservation Service
- U.S. Department of Agriculture
- USDA Forest Service
- The Nature Conservancy
- Indiana State University

Respondents considered current inventory and assessment techniques for Farm Bill Program grasslands habitats in Indiana as follows:

Inventory and assessment techniques for Farm Bill Program grassland habitats	Used	Not used but possible with existing technology or data	Not economically feasible
GIS mapping	X	X	--
Aerial photography and analysis	X	X	--
Systematic sampling	--	X	--
Participation in landuse programs	X	--	--
Modeling	X	--	--
Voluntary landowner reporting	X	X	--

A respondent listed another inventory and assessment technique for Farm Bill Program grassland habitats in Indiana: "I recently correlated the number of acres enrolled in USDA programs with our

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annual bobwhite whistle indices on a statewide scale. I am planning on modeling regional bobwhite indices and USDA idled acreage.”

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 Farm Bill Program habitats. Their responses included:

- Yes.
- YEs

Recommended monitoring

Species monitoring

Respondents recommended the following monitoring technique for effective conservation of wildlife in Farm Bill Program grassland habitats in Indiana (not ranked):

- To monitor bobwhite populations specifically in farm bill habitats, I would suggest selecting a random sample of contracts and conducting flushing transects. Another intensive method would be to have hunters complete "report cards" when hunting on Farm Bill acreage. A less intensive method would be to request that landowners conduct whistle counts on their enrolled lands each spring
- Fall covey counts
- Professional and volunteer survey and census

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 Farm Bill Program habitats. Their responses included:

- One of the most important issues in monitoring wildlife populations relative to Farm Bill programs will be to conduct some surveys with a level of intensity that will be able to discern the impact of the program accomplishments on the population level. This can only be done on a smaller scale (e.g. township level) rather than statewide.
- Yes

Habitat inventory and assessment

Respondents recommended the following inventory and assessment techniques for effective conservation of Farm Bill Program grassland habitats in Indiana (not ranked):

- Flush counts or more intensive whistle counts on farm program lands would be a useful method of evaluating their quality when compared to the same indices on non-Farm Bill lands
- Grassland mapping by major plant species type
- GIS mapping and participation in landuse programs (CRP)

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 Farm Bill Program habitats. Their responses included:

- Yes

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Technical experts and conservation organizations offered the following additional comments:

- Most responses were concerned about Bobwhite quail. Need other grassland species input.
- Two programs that really need to be looked at in detail to insure that wildlife benefits are being realized are the Grassland Reserve Program (GRP) and the Conservation Security Program (CSP). Both programs have the potential to benefit wildlife populations, but only if they are implemented properly, with wildlife considerations taken seriously.