

**Presidential Migratory Bird Federal Stewardship Award
Nomination Application**

**Submit your application to: nanette_seto@fws.gov
(Maximum length of 5 pages - text only, 12 pt font)**

Goal of Award: Award acknowledges an action [see Award Announcement for definition] conducted by or in partnership with a Federal Agency that contributes to migratory bird conservation, meeting the intent and spirit of the EO 13186. Agency/project demonstrates a leadership role in inspiring others to take action in migratory bird conservation. This could include developing and implementing BMPs, a policy action, or research.

1. Applicant (must be a Federal Agency. If more than one, list the lead agency):

[George M. Linz, USDA-APHIS, Wildlife Services, National Wildlife Research Center, Bismarck, North Dakota.](#)

2. Co-applicant(s) (if any; can be Federal or non-Federal entity):

[William J. Bleier and Heath M. Hagy, Department of Biological Sciences, North Dakota State University, Fargo, North Dakota.](#)

3. Action (In two pages or less, describe how the action contributes to overall migratory bird conservation. Be sure to highlight areas in which the action exceeds daily activities and/or agency mandates, and represents a leadership role in migratory bird conservation):

Introduction

Analyses of North American Breeding Bird Survey (BBS) data show that grassland species are declining rapidly in the prairie regions of North America. Native prairie and traditional Conservation Reserve Program (CRP) lands are declining rapidly in the northern Great Plains, and suitable seed-producing alternatives are becoming increasingly critical to the numerous species of birds that migrate through the area.

From August to October, large numbers of seed-eating birds congregate in the northern Great Plains in preparation for migration to southern wintering areas. Agricultural fields are often over-looked as post-breeding and migratory bird habitat, even though many species use row-crop fields in the northern Great Plains. Researchers have documented 44 bird species using ripening sunflower fields for food and cover.

A researcher from the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) Wildlife Services, National Wildlife Research Center, in collaboration with scientists from North Dakota State University (NDSU), developed an innovative nonlethal method of providing critical habitat for fall migrating songbirds while reducing blackbird damage to sunflowers.

Preliminary research conducted by NWRC scientists in the early 1980's demonstrated that establishment of decoy food plots around sunflower fields in North Dakota and South Dakota could help to reduce blackbird damage. However, this preliminary research did not

provide guidance on how to select and establish small food plots nor document the species of nonblackbirds that used the sunflower plots. Between 2004 and 2005, researchers from the NWRC and NDSU used a detailed quantitative approach to document the use of sunflower food plots by songbirds and to monitor bird use, crop and non-crop vegetation characteristics and abundance, and land use around 35 Wildlife Conservation Sunflower Plots (WCSP). These WCSPs, which were set aside specifically to provide non-disturbed habitat for birds as well as protect nearby commercial sunflower fields, provided critical habitat for 20 seed-eating bird species.

The results of this research were documented in *Crop Protection and American Midland Naturalist* (Hagy, H. M., G. M. Linz, and W. J. Bleier. 2008. *Optimizing the use of decoy plots for blackbird control in commercial sunflower*. *Crop Protection*. 27:1442-1447; Hagy, H. M., G. M. Linz, and W. J. Bleier. 2010. *Wildlife conservation sunflower plots and croplands as fall habitat for migratory birds*. *American Midland Naturalist*. 164:119–135).

Benefits of WCSP for Wildlife

Researchers reported bird species diversity and densities to be greater in WCSP than in either commercial sunflower fields or in non-sunflower row-crops such as corn, soybeans and wheat, demonstrating that WCSP provide preferred habitat for grassland birds. Bird densities in WCSP were greater than previously reported during fall for fallow, sunflower and wheat fields; for cornfields during the breeding season; for Great Plains forest fragments in spring; or for Conservation Reserve Program grassland and row crop fields in winter. A diverse community of migratory birds used WCSP compared to other non-sunflower crops in North Dakota. For example, researchers observed 20 seed-eating bird species in WCSP and 15 bird species in non-sunflower row crops. Prior to migration, neotropical seed-eating birds such as Chipping Sparrow, Clay-colored Sparrow, Vesper Sparrow, Savannah Sparrow, Lincoln's Sparrow, Swamp Sparrow and White-crowned Sparrow benefited from diverse food resources found in WCSP. Bobolinks, a species of special concern, were commonly observed in WCSP. Migratory birds were more strongly associated with vegetation within fields, such as crop density (+), non-crop plant abundance (+) and crop height (+), than surrounding land uses (0–2.4 km from WCSP).

Benefits of WCSP for Farmers

WCSP are beneficial not only to wildlife, but also to farmers who experience reduced damage because WCSP, by providing alternative food, lure depredating blackbirds out of commercial sunflower fields. This provides a financial incentive for farmers to plant WCSP that provide critical foraging substrates and cover for many species of grassland birds.

Significance

Scientists found that neotropical seed-eating birds were common in WCSP because these plots provided a good source of weed seeds and dense cover. Extension meetings and stakeholder brochures have encouraged sunflower growers to adapt the concept of WCSP plots to their individual farms to protect high value crops, especially sunflower. The concepts developed through this research on WCSP to protect ripening sunflower crops can be adopted by the Natural Resource Conservation Service's Conservation Reserve Program to provide quality food plots for birds, including blackbirds around corn and other types of

crops. National and international wildlife managers can use these research findings to develop nonlethal integrated pest management plans to help manage wildlife damage to crops. These finding will reduce the need for lethal methods to reduce bird damage.

4. When was the action initiated? (Initiation date must be 2001 or later)

2004 and 2005

5. Is the action local, regional, national or international in scale? Please explain.

Nonlethal methods of reducing crop damage by depredating birds are limited in both number and effectiveness. The concepts developed through this research on WCSP can be adapted to international crops to protect many species of birds with declining populations. For example, the Dickcissel is heavily persecuted in South America for damage caused to small grains, and Bobolinks are a species of special concern that migrate to South America. Providing an alternate food source would be beneficial for protecting these international migrants. Prior to migration, neotropical seed-eating birds such as Chipping Sparrow, Clay-colored Sparrow, Vesper Sparrow, Savannah Sparrow, Lincoln's Sparrow, Swamp Sparrow and White-crowned Sparrow benefit from eating highly nutritious seeds found in WCSP.

The development of perennial sunflower, which was expedited due to the findings of this research, will provide additional incentive to wildlife managers seeking a cost-beneficial food plots to plant on federal, state, and private lands (e.g., CRP food plots).

6. How does the action meet or exceed agency mandates or daily activities?

The USDA-APHIS Wildlife Services, National Wildlife Research Center and its university collaborators are charged with developing environmentally safe and effective methods of managing wildlife damage to crops. These scientists took a novel, environmentally friendly, and effective approach to managing blackbird damage to sunflower. These researchers exceeded agency mandates by carefully documenting wildlife use of WCSP and reporting in peer-reviewed literature, conference proceedings, and extension brochures/meetings the value of this nonlethal method of managing crop damage for all wildlife, especially fall migrating songbirds. The lead scientist also advises individual growers on the best practices for instituting the concept of WCSP. This is outside his normal activities as a research scientist.

7. Explain how the action promotes or results in effective migratory bird conservation.

Loss of habitat is a major cause of the decline of grassland bird species. As human populations continue to expand, and natural habitats are converted to farmland and other uses, it will be increasingly important to provide for the critical needs of migratory birds. Our research has documented that at least 44 species of birds use sunflower fields in the Prairie Pothole region during the fall, indicating that these birds are relying on this crop to meet the high energetic costs of long-distance migration, and that sunflowers may be critical for their survival. Weed seeds and insects found in WCSP help birds meet these energy requirements. The expedited development of perennial sunflower as a direct result of

published WCSP research could change wildlife management strategies with cost savings associated with planting food plots.

8. Provide details that demonstrate how the action is innovative.

The research described herein provided additional critical information to the results of the preliminary research on the use of decoy/lure food plots that was conducted in the 1980s. This recent research provided solid documentation that 20 seed-eating birds used WCSP. We also documented that WCSP help reduce damage in nearby commercial sunflower fields, thus providing an incentive for wildlife managers and private landowners to support the establishment of WCSP. Finally, the research provided necessary documentation to growers and wildlife managers on how to select and establish food plots.

9. Describe the roles and responsibilities of partners (if any).

George M. Linz, a Supervisory Wildlife Biologist with the USDA-APHIS-WS National Wildlife Research Center field station in Bismarck conceived the idea of planting WCSP to provide an alternative food source for migrating blackbirds and songbirds. As Major Advisor, Dr. Linz directed Heath Hagy (MS Graduate Student, North Dakota State University) research that resulted in his thesis on WCSP. Heath was the lead author on two peer-reviewed publications. Dr. William J. Bleier is Head of the Department of Biological Scientists at North Dakota State University, and served as Heath's coadvisor.

10. How might the action be transferrable to other sites managed by this or other federal agencies? How is this being encouraged? Please explain.

Information is transferred to public agencies and private land owners with peer-reviewed publications, conference proceedings, and extension/stakeholder brochures and newsletters. These publications are available on the internet to international groups. We expect that over time wildlife agencies and private landowners will increasingly use our approach to develop wildlife food plots.

11. How does/did the action impact your agency's current migratory bird conservation practices?

The mission of USDA-APHIS, Wildlife Services is to provide Federal leadership in managing problems that occur when human activity and wildlife are in conflict with one another. The WS program strives to develop and use wildlife damage management strategies that are biologically sound, environmentally safe, and socially acceptable. WCSP are a win-win solution to the very serious problems of the decline of many grassland bird species and the extensive depredations of birds on commercial sunflower crops. WCSP are beneficial to both migratory birds and farmers. WCSP can accommodate a wide variety of migratory birds while providing a row crop/blackbird damage control system for farmers in the northern Great Plains (NGP). Integrative pest management/wildlife management systems will become increasingly important in the NGP as migrating granivorous birds steadily face grassland loss. Conversion of grassland habitats in the NGP to croplands could negatively affect migratory birds given their abundance in grasslands compared to many crops. If economically viable, continued sunflower production and WCSP implementation may benefit migratory birds by providing better habitat than other row-crops in the NGP.

12. Does the action benefit migratory bird species of concern? If yes, how?

Sunflowers, a high-energy food, are one of only two unharvested crops typically available to seed-eating birds that migrate through the Great Plains in the fall. Sunflower fields also are the only crop in the Great Plains that typically contain abundant weed species that produce mature seeds suitable for small seed-eating birds.

Native prairie and traditional Conservation Reserve Program (CRP) lands are declining rapidly in the NGP, and suitable seed-producing alternatives are becoming increasingly critical to the numerous species of birds that migrate through the area. We have documented that WCSP provides quality habitat, food, and cover not only for common species such as Yellow-headed Blackbirds, Red-winged Blackbirds, and Common Grackles, but also for Bobolinks, Chipping Sparrows, Clay-colored Sparrows, Dark-eyed Juncos, Field Sparrows, Fox Sparrows, Harris's Sparrows, Savannah Sparrows, Song Sparrows, Swamp Sparrows, Vesper Sparrows, White-throated Sparrows and White-crowned Sparrows. WCSP may be especially critical for Bobolinks, a species of special concern. Bobolinks were found at a density of 0.38 birds/ha of planted WCSP, a far higher density than surrounding commercial sunflower or row crop fields. WCSP provide quality habitat for foraging on weed seeds and provide cover. Planting WCSP, especially perennial sunflower, for food plots on CRP lands may be particularly valuable for seed-eating birds that use grassland.