

Presidential Migratory Bird Federal Stewardship Award Nomination
Migratory Bird Program at the Department of Energy's Pantex Plant

1. Applicant (must be a Federal Agency.):

U.S. Department of Energy (DOE)/National Nuclear Security Administration (NNSA),
Pantex Plant, Amarillo, TX

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

James D. Ray
Scientist/Wildlife Biologist
Babcock and Wilcox Technical Services Pantex - Contractor for U.S. DOE/NNSA

3. Action:

DOE/NNSA and the Pantex Plant initiated a migratory bird program on the Pantex Plant located in the Texas Panhandle. The endeavors described below represent a significant pattern of defining a migratory bird program and elevating it to a level beyond agency mandates, thereby demonstrating a leadership mentality. The work demonstrates the DOE/NNSA Pantex Plant's initiative and credibility pertaining to the conservation of migratory birds and their habitat.

The DOE/NNSA Pantex Plant developed research proposals, secured funding, and served as co-investigator on research projects dealing with timely issues involving migratory bird species. This included three projects on western burrowing owls (*Athene cunicularia hypugaea*), dealing with burrowing owl behaviors, nest site use and productivity, and the effects of radio transmitter collars. Currently, a multifaceted project is evaluating the effects of wind energy development on migratory birds. This program includes a contract with West Texas A&M University, and has resulted in the development of a comprehensive literature review on the impacts of wind energy on wildlife, and the initiation of pre- and post-turbine monitoring of migratory birds. This project also involves surveys of plots for wintering and migrating raptors, surveys of plots in different habitat types during the breeding season for birds and nests, and radio-tracking of Swainson's hawks (*Buteo swainsoni*). Two years of pre-monitoring have been accomplished for all selected birds, but the Swainson's hawk monitoring has just completed its first field season.

The DOE/NNSA Pantex Plant's research also includes the banding of Purple Martins (*Progne subis*) which doubles as a public outreach initiative (see below). Since 2002, more than 8,500 nestling martins have been banded throughout northwest Texas and western Oklahoma under this program. In 2010, the DOE/NNSA Pantex Plant wrote and secured a grant from the Purple Martin Conservation Association to develop "An Automated Method for Using Archived NEXRAD Radar Images to Locate Pre-Migratory

Roosts of Eastern Purple Martins (*Progne subis subis*) on the Western Terminus of Their Range”. This grant was awarded to a co-Principle Investigator at West Texas A&M University. A computer model is being developed to utilize radar images for locating roosts through an automated system.

The DOE/NNSA Pantex Plant’s most notable accomplishment under the National Environmental Policy Act review process involved the installation of raptor protection on new utility poles at the Pantex Plant. In 2008, protective devices were installed on approximately 500 new poles at the Pantex Plant, and an additional supply was purchased and stockpiled by Plant Maintenance for use on any existing poles that are identified or suspected of causing electrocution of birds in the future. The devices are made of plastic and provide protective insulation on one of two closely situated electric lines on the new poles. Approximately 20 miles of lines now have these protective devices. Xcel Energy, a public utility that supplies electricity to the Texas Panhandle, recognized the Pantex Plant for this accomplishment in a news release in 2010 as part of National Raptor Month.

To ensure that any grassland or habitat restoration truly qualifies as prairie restoration for maximum benefit to grassland migratory birds, grass seeding procedures were reviewed in 2008. Now, when grasses are planted, native prairie restoration is accomplished by soil type, which is consistent with the spirit of the Playa Lakes Joint Venture and Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*. Appropriate prairie seeding mixtures are utilized for the specific soil type. Any project at the Pantex Plant that results in disturbed soils is revegetated in this manner, rather than using species not appropriate for the particular soil type.

The DOE/NNSA Pantex Plant’s migratory bird program has achieved considerable success in providing important and interesting communication to various groups on and off the Plant site, including presentations, publications, driving tours, and interviews. Technical guidance is commonly provided to Pantex employees who have questions pertaining to migratory birds on-site or at home. Presentations have been provided to groups including Xcel Energy, the Explosive Safety Engineers Conference, Lion’s Clubs, Rotary Clubs, schools, study groups, and church groups. Conservation groups include the Purple Martin Conservation Association, Panhandle Chapter of the National Association of Corrosive Engineers, the North American Waterfowl Management Plan Technical Group, the Texas Chapter of The Wildlife Society, the Texas Black-Tailed Prairie Dog Working Group, the Panhandle Chapter of Texas Master Naturalists, and the West Texas A&M Wildlife Club. In addition, the Pantex Plant’s work was featured in an episode on Purple Martins on *Outdoor Oklahoma Television*. The Purple Martin Outreach Program reaches up to 41 families/neighborhoods per year in northwest Texas and western Oklahoma.

The DOE/NNSA Pantex Plant has contributed to special status species and habitat conservation planning by serving on or interacting with a number of conservation groups including the Texas Black-tailed Prairie Dog Conservation Group, the Western Burrowing Owl Working Group, the Playa Lakes Joint Venture’s Monitoring, Evaluation and Research Team, and the Nature Conservancy’s Shortgrass Prairie Group.

Since 2002, the DOE/NNSA Pantex Plant's migratory bird research program and continuing outside professional associations by James D. Ray, Pantex Plant wildlife biologist, has produced an impressive number of publications in journals and magazines (15), and presentations (12) at professional meetings. An article in the Second Edition of Texas Parks and Wildlife Department's, *The Purple Martin and its Management in Texas* (2001), won the Texas Chapter of The Wildlife Society's Outstanding Popular Article for 2002. Publication outlets have included Journal of Raptor Research, Journal of Wildlife Management, Purple Martin Update, Southwestern Naturalist, Texas Breeding Bird Atlas, Texas Journal of Science, Texas Wildlife, and Waterbirds.

4. When was the action initiated? (Initiation date must be 2002 or later)

The DOE/NNSA Pantex Plant migratory bird program was initiated in January 2002, with the first field season of the first project conducted that summer.

5. Does the action take place locally, regionally, nationally or internationally? Please explain.

Research activities have occurred locally on the 18,000-acre Pantex Plant, as well as on privately owned land of approximately eight times that acreage in the surrounding area. The burrowing owl projects were conducted regionally, with study sites located at the Pantex Plant, as well as southward across the Southern High Plains of Texas. Presentations on wildlife management have been given at the regional, state, and national levels. A recent presentation at the 2011 Purple Martin Conference (Erie, PA) involved researchers from across North America and even Brazil, as well as martin enthusiasts from across North America. Articles have appeared in national and international journals and magazines, thus reaching a wide audience.

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

In 2002, the base migratory bird program consisted of development of a Plant-wide bird list, protection of bird nests from destruction at work sites, protection of burrowing owls during prairie dog control activities through pretreatment surveys and burrowing owl avoidance criteria, and grazing rotations to benefit wildlife, including migratory birds (Migratory Bird Treaty Act and EO 13186). Control of prairie dog colonies, which are viewed and managed as valuable habitat for burrowing owls and other migratory birds, is limited to areas of operational concern. Outreach was encouraged but was limited to one type of public presentation related to backyard migratory bird attraction.

Since 2002, the context of the program has expanded. Research was initiated to gain answers to the presence, abundance, and habitat needs of migratory birds. A current project is evaluating the effects of wind energy development on migratory birds. Ensuring true prairie restoration and providing raptor protection on an entire primary electric distribution system are also very noteworthy projects that go above and beyond agency mandates. Outreach has increased to include frequent presentations and publications (see #3 above for more details).

These initiatives, skills, experience, and outside contacts have allowed the migratory bird program to develop to a level that has raised the credibility of the Pantex Plant with the local community, cooperating landowners, and the wider wildlife management and research community.

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

The migratory bird program pays off with active protection and conservation of migratory birds and their habitat, as well as developing research and meeting the information needs of the DOE/NNSA Pantex Plant. Beyond that, the program's research provides timely information on species or issues of high interest, for example, western burrowing owls and bird issues surrounding rapid wind energy development. Thus, presentations and publications lift the DOE/NNSA Pantex Plant into the forefront of research taking place on these important issues.

Outreach to Pantex workers and local, state, national, and international audiences on information from the work of the DOE/NNSA Pantex's migratory bird program has resulted in heightened awareness of issues important to the conservation of migratory birds and their habitat. Information is also shared with the scientific community for broader application.

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

The base migratory bird program provides protection based on widely known best management practices (BMPs) conducted within a wide context of wildlife management and characterization activities. At the Pantex Plant, the research and protection projects mentioned in #3 above were all Plant initiatives, were not mandated, and have expanded the reach of the BMPs through publications in peer reviewed literature, public outreach, and coordination with other agencies such as the Texas Parks & Wildlife Department, the Natural Resources Conservation Service, U.S. Geological Survey, and the U.S. Fish & Wildlife Service. Raptor protection on all primary electrical distribution lines and modifications at the wastewater treatment plant to prevent mortality of wading birds are above and beyond regional and mandated practices. Pre- and post-construction monitoring of wind turbine fields was set up prior to consultation with other agencies and is of the intensity that exceeds published recommendations. Acceptance of research results by peer reviewed publications testifies to the innovative nature of the Plant's migratory bird program. The Purple Martin Outreach program is an innovative way to blend science (banding) and public education by interacting with individuals, neighborhoods, and communities.

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

The migratory bird program routinely works with, and advises, Pantex Plant management and workers on how their operations and activities may impact migratory birds and habitat conservation, and what mitigation actions will be implemented.

The migratory bird program research projects have involved university co-investigators, graduate students, and student laborers. Since 2002, co-investigators have included Texas Tech University, West Texas A&M University, and the U. S. Geological Survey. An outside grant was secured from the Purple Martin Conservation Association (Erie, PA.)

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

Considerable time has been spent sharing the migratory bird program's initiatives and research results through presentations, reports, and articles. Information has been shared and collaboration has occurred with various agencies and entities (Texas Parks and Wildlife Department, U. S. Fish and Wildlife Service, Texas Tech University, West Texas A&M University, U. S. Geological Survey, Western Burrowing Owl Working Group, and Texas Black-Tailed Working Group). The program's research has also been presented to scientists and outreach personnel at meetings involving the other DOE/NNSA sites. All DOE/NNSA facilities want to strive for a high level of credibility and be at the forefront of wildlife management and research.

These accomplishments from the migratory bird program at the Pantex Plant are tangible in that information is being presented at local, regional, national, and international levels. Migratory bird issues and wind turbine issues are of global concern.

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

Prior to development of the migratory bird program, work on migratory birds at the Pantex Plant was limited primarily to development of a bird list and protection of observed bird nests. The current program's work brings more understanding and emphasis on habitat and its conservation and management, and also provides information of a quality that can be accepted by, and shared with, the scientific community. Again, credibility of the DOE/NNSA Pantex Plant with the local community as well as wider professional level is enhanced through this program.

12. How does the action benefit migratory bird species of concern?

Burrowing owls, Swainson's hawks, and many other species of grassland birds are considered species of concern. This migratory bird program has directly benefited burrowing owls and Swainson's hawks through its research, and many raptor species benefit from the protection devices now equipped on over 500 utility poles on the Pantex Plant property. Results from pre- and post- monitoring of affects of wind energy development on migratory birds, and also from the radar-Purple Martin work, will likely have both local and international ramifications. This includes not only gaining biological data to bolster conservation plans, but also to produce recommendations for reducing the disturbance and mortality of these species.