

Chapter 5: Plan Implementation

New and Existing Projects

This CCP outlines an ambitious course of action for the future management of Horicon and Fox River National Wildlife Refuges. The ability to enhance wildlife habitats on the Refuges and to maintain existing and develop additional quality public use facilities will require a significant commitment of staff and funding from the Service. Both Refuges will continually need appropriate operational and maintenance funding to implement the objectives in this plan.

The following section provides a brief description of the highest priority Refuge projects, as chosen by the Refuge staff and listed in the Refuge Operating Needs System (RONS). A full listing of unfunded Refuge projects and operational needs can be found in Appendix F.

Horicon NWR Operating Needs Projects

Improve Water Level Management (Maintenance Worker). Provide a maintenance worker to improve wetland management through prescribed burning, mowing, diking, water level management, and the operation and maintenance of an existing dike, ditch and pumping system. To provide the best possible wetland habitat, the Refuge actively manages over 15,000 acres of high quality wetlands. Horicon NWR is a Wetland of International Importance and a Globally Important Bird Area. The 32,000-acre marsh, jointly managed with the Wisconsin Department of Natural Resources, is also an important migration stop for millions of waterfowl and other migratory



River otter, Horicon NWR

birds. Strategies 2.1-3 and 2.2.1-5; Estimated cost: \$150,000.

Enhance Refuge Management and Administration (Resource Specialist). Provide a resource specialist to conduct wildlife and habitat surveys, waterfowl banding, water level management, carp control, public use programs, and other needs such as updating and writing Refuge plans. The 32,000-acre marsh, jointly managed with the Wisconsin Department of Natural Resources, is an important migration stop for Canada Geese, waterfowl and other migratory birds. Horicon NWR is a Wetland of International Importance and a Globally Important Bird Area. The marsh is also the largest freshwater cattail marsh in the United States and supports a wide variety of plants and animals. Strategies 1.1.3-5, 1.4.1-2,

2.1-3, 2.2.1-5, all strategies within Objectives 3.1-3.5; Estimated cost: \$150,000.

- # Increase Conservation Projects with Landowners in the Upper Rock River Watershed. Provide an outreach specialist under contract to act as a liaison between landowners and existing government and NGO conservation programs. The contractor will work closely with the Refuge staff, federal Partners for Fish and Wildlife staff, Wisconsin DNR, Counties, and non-profit groups to encourage understanding, and action, of private landowners in the upper watershed of the critical issue of soil erosion and contaminants impacting the Horicon Marsh. Strategies 2.6.1-8; Estimated cost: \$70,000 - \$150,000.
- # Improved Upland Habitat Restoration and Maintenance. Manage 5,000 acres of uplands on Horicon National Wildlife Refuge through the planting of native grasses and forbs. Selected upland sites would be prepared for planting and supplies purchased to be used in this long-term effort to restore native prairie grasses and forbs. A seed cache would also be built. This project would help control noxious weeds and invasive woody species in uplands by purchase of herbicides, boom sprayer, other application equipment, and 15-foot bat wing mower. Control of these invasive weeds is important since they cause degradation of nesting habitat and a decrease in overall plant and animal diversity. Strategies 2.3.1-6, 2.4.1-3, 2.5.1-3 Estimated Cost: \$150,000.
- # Reduce Woody Vegetation on Upland Grasslands. This project will involve hiring a contractor to thin or cut woody vegetation on uplands. The stumps would be treated with chemicals. One of the biggest factors that prevent some of the uplands from being managed is the encroachment of woody vegetation. Strategies 2.3.1-6, 2.4.1-3, 2.5.1-3; Estimated cost: \$250,000.
- # Reduce Wildlife-Vehicle Collisions on State Highway 49. This project will provide for physical and educational strategies to reduce the loss of wildlife along a major highway bisecting the Horicon Marsh. State Highway 49 is a high speed roadway that bisects the northern section of the Horicon Marsh for 2.5 miles. During the 2002-2005 alone, well over 4,200 dead animals, including waterfowl, bitterns, river otters, muskrats, frogs and toads were found along this roadway. Partial solutions

to this problem include raised culverts, or simple barriers and fences and poles along key segments of the highway. Increased law enforcement patrol is also a key issue.

Funding may also be used for research and monitoring. Matching or supplemental funds may also be available through the U.S. Department of Transportation (SAFETEA LU) or other sources. Strategies 1.2.1-4; Estimated cost: \$1,500,000.

- # Volunteer Coordination. This project will provide for a volunteer coordinator position. Horicon NWR has over 280 volunteers, who provide much assistance to the Refuge on many different projects in all program areas. However, volunteers need attention and consistent direction; a volunteer coordinator is needed to provide overall management to the program, expand opportunities for volunteers to get involved with the Refuge and ensure volunteers' needs are being met. Strategies 3.5.2 and 3.5.8; Estimated cost: \$150,000.
 - # Assess Impacts of Visitor Use and Disturbance of Wildlife. Conduct an in-depth evaluation of the Refuge's visitor services programs and the effects of visitor use on wildlife. This work would be completed through a contract with a local university. Currently, about 450,000 people visit Horicon NWR every year. Public use is limited to certain areas. This study would provide staff information on the impacts of future proposed activities on closed areas of the Refuge and if deemed compatible, would increase visitor use. Currently staff has few data available to support the opening of areas to public use. Strategies 3.1.1, 3.1.7, 3.1.8, 3.1.10, 3.2.2, 3.3.1-4; Estimated cost: \$50,000.
 - # Improve Visitor Services by Providing New Refuge Brochures. Develop new brochures for the Horicon NWR, a Wetland of International Importance, a Globally Important Bird Area, and the largest freshwater cattail marsh in the United States. About 450,000 people from all over the world visit this important resource. Many people request information on specific items such as certain kinds of wildlife that use the Refuge and the archaeological history of the area.
- This project would provide funding for printing and reprinting of new and old Refuge brochures, bird lists, hunting brochures, and maps. Thousands of publications are distributed to vis-

- itors by mail. Tourism groups and local businesses facilitate further distribution. Currently, in partnership with the Wisconsin DNR, a combined hunter map and a combined visitor map are developed and printed each year. Each year, the Wisconsin DNR covers the cost of this publication. Strategies 1.1.1, 3.1.4, 3.4; Estimated cost: \$100,000.
- # Enhance Visitor Center Experience for Individuals and Groups. Replace exhibits in visitor center where thousands of people visit each year. Current exhibits are outdated and in need of repair. Strategy 3.4.7. Estimated cost: \$200,000.
 - # Improve Water Quality of Horicon Marsh Ecosystem. Various studies over the years have determined that the marsh is being polluted with high amounts of nutrients and pesticides at an alarming rate. This project will determine areas within the watershed that need the most attention, locate high discharge areas, provide for incentives for landowners to implement conservation measures, provide for education, and fund conservation easements. Strategies 2.6.1-8 Estimated cost: \$1,000,000.
 - # Analyze Existing Water Quality Data. Three years of U.S. Geological Survey data on the Horicon Marsh was conducted to monitor flow velocity and collect water samples. The data now sits in boxes and needs to be analyzed and described in a final report. The marsh is continually being polluted with contaminants at an alarming rate. The analysis of this study will determine management direction in working towards a solution. Strategies 2.6.4 and 2.6.7; Estimated cost: \$130,000.
 - # Improve Water Management on the Marsh (Heavy Equipment). Purchase a dozer, tracked truck, mat track, and Marshmaster to facilitate the repair of Refuge dikes, which are badly deteriorating to the point of becoming unsafe. The equipment will also be used to fill old, submerged ditches as described in the CCP. Purchase is more economical and efficient than continual equipment rental. The Refuge also requires an aerial lift to facilitate ongoing maintenance needs more efficiently and safely. A pump and generator for drawing the water off of the units and personnel to operate pumps is necessary to successfully manage moist soil areas for waterfowl. Many wetland areas are managed as moist soil units, which involves drawing the water off of an area in late spring and flooding the area in the fall. This management stimulates the growth of wetland plants that are attractive to waterfowl. Strategies 2.1.1-4, 2.2.1-5; Estimated costs: \$190,000 (tracked truck), \$30,000 (mat tracks), \$27,000 (aerial lift), \$118,000 (dozer), \$50,000 (pump & generator), Marshmaster (\$100,000).
 - # Improve Visitor Services by Providing Staff for Visitor Center. Currently the Refuge has two intermittent employees who staff the visitor center, especially on the busy weekends in the fall. They are assisted by volunteers, but Service policy prevents volunteers from working alone. During lean years, the employees do not work and the visitor center does not stay open on weekends. The Refuge has over 450,000 visitors per year, especially in the fall. This project would provide funding for these intermittent employees so that the visitor center can remain open on weekends. Strategies 3.1, 3.2, 3.3, 3.4, 3.5 Estimated cost \$20,000
 - # Enhance Visitor Center Experience and Decrease Wildlife Vehicle Collisions. This project would provide funding for supplies and equipment for current law enforcement personnel. For example, a computer in the vehicle and a radar gun (with training) would allow the officer to be more efficient and would also alleviate the speeding problem on Highway 49. Fewer animals would become roadkill if people were forced to follow the speed limit. Enforcement on Highway 49 would also provide for a safer environment for people. About 450,000 people visit the Refuge every year. Highway 49 offers one of the best viewing areas and many of those people drive extra slow on the highway or pull off onto the shoulder, walking along the side of the highway or even across it as semis and other vehicles speed past. Strategies 1.2.2, 3.1.5, 3.1.6, 3.3. Estimated cost \$20,000.
 - # Improve Habitat for Nesting Migratory Bird Species by Controlling Predators. Predators, such as mink and raccoon, are an over-abundant species that impact ground-nesting birds. Managing this problem through trapping has not worked over the years due to low trapper interest and effort, namely due to the low price of pelts. This project would allow for incentives for trappers, as well as a contractor to remove woody vegetation, old fencerows and other

structures to decrease the predator habitat. Strategies 1.3.6 and 1.3.7. Estimated Cost \$100,000.

- # Improve Habitat for Migratory Bird Species by Controlling Invasive Carp. Carp are an extremely destructive, non-native species of fish that thrives in low-oxygen conditions such as the shallow wetlands of Horicon Marsh. Carp roll in the marsh sediments and create a cloudy environment and uproot aquatic plants. Little sunlight can penetrate the water and fuel the marsh food web. Few organisms thrive in such conditions and the biological diversity of the Marsh is reduced. This project would provide for the purchase of chemical pesticides (rotenone), maintenance needs for the carp trap, and funds for implementing new research techniques such as pheromone. Strategies 1.3.1, 1.3.2, 1.3.3 Estimated Cost \$100,000.
- # Enhance Visitor Services by Improving Fishing Sites. Fishing is one of the priority public uses of the Refuge system. The Refuge currently offers fishing at three designated fishing sites. All of the sites will have accessible fishing platforms that require annual maintenance due to normal wear and tear and, unfortunately, vandalism. This project would provide funds for maintaining the sites, including the platforms, and improvement of the Peachy Road fishing site to include a kiosk, an accessible trail, accessible fishing platforms. Improvement for access at the Ledge Road fishing site is also needed as the Rock River has shifted and anglers no longer have access to water unless Refuge staff provide a bridge or platform. Strategies 3.2 Estimated Cost \$125,000.
- # Develop a Complete Inventory and List of Species to Improve Habitat Management. Complete a thorough bird, amphibian, reptile, and mammal inventory (by contract) to assist Refuge staff in developing the best management for the area. Fox River NWR contains a diversity of wildlife within this wetland/upland complex. The Refuge has 10 distinct plant communities ranging from upland coniferous and deciduous woodlands to five wetland communities. This diversity is responsible for the presence of about 150 different species of wildlife. Species diversity of this extent, within a relatively small confined area of 1,000 acres, is not found in many parts of Wisconsin. Strategy 3.3.7; Estimated cost: \$75,000.
- # Improved Upland Habitat Restoration and Maintenance. Manage uplands on Fox River NWR through the planting of native grasses and forbs. Selected upland sites would be prepared for planting and supplies purchased to be used in this long-term effort to restore native prairie grasses and forbs. This project would help control noxious weeds such as reed canary grass, phragmites, purple loosestrife, spotted knapweed, leafy spurge, garlic mustard, and invasive woody species in uplands by purchase of herbicides. Control of these invasive weeds is important since they cause degradation of nesting habitat and a decrease in overall plant and animal diversity. Strategies 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, and 2.5. Estimated Cost \$75,000.
- # Improved Upland Management through Removal of Woody Vegetation. This project will involve hiring a contractor to thin or cut woody vegetation on uplands. The stumps would be treated with chemical. One of the biggest factors that prevents some of the uplands from being managed is the encroachment of woody vegetation. Strategies 1.2, 1.3, 2.1, 2.2, 2.3, and 2.5; Estimated cost: \$100,000.
- # Enhance Refuge Management and Administration (Resource Specialist). Provide a resource specialist to conduct wildlife and habitat surveys, public use programs, and other needs such as updating and writing Refuge plans. Currently, the Refuge is managed by the staff at Horicon NWR. For the past several years, money has been provided through the Natural Resource Damage Assessment (NRDA) fund for a temporary employee who has worked on habitat restoration projects and

Fox River Refuge Operating Needs Projects

- # Improve Visitor Services by Providing New Refuge Brochures. Develop new brochures for the Fox River NWR. With the expanded hunting and other uses proposed, brochures will be needed to assist visitors. A brief hunting brochure is the only pamphlet currently available for visitors to the Refuge. This project would provide funding for printing of new Refuge brochures, bird lists, hunting brochures, and maps. Hundreds of publications are distributed to visitors by mail. Strategies 1.1, 3.1, 3.2, 3.3, 3.4, 3.5; Estimated cost: \$50,000.

Table 20: Additional Staffing Required to Fully Implement the CCP by 2021, Horicon NWR

Position	FTEs
Refuge Operations Specialist (Resource Specialist)	1.0
Maintenance Worker	1.0
Park Ranger (volunteer coordinator)	1.0
Refuge Operations Specialist (Fox River NWR)	1.0
Total	4.0

wildlife surveys full-time at the Refuge. This money and person will end in 2007 and much work remains. Strategies 1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 3.2, 3.3, 3.4., 3.5 Estimated cost: \$150,000.

Future Staffing Requirements

Implementing the visions set forth in this CCP will require additions to the organizational structure of Horicon NWR. Existing staff will direct their time and energy in somewhat new directions and new staff members will be added to assist in these efforts. The first organizational chart shows the existing Refuge staff as of Fiscal Year 2006 (Figure 16). Table 20 identifies additional staff needed to fully implement this plan by Fiscal Year 2021.

Partnership Opportunities

Partnerships have become an essential element for the successful accomplishment of Horicon and Fox River NWR goals, objectives, and strategies. The objectives outlined in this draft CCP need the support and the partnerships of federal, state and local agencies, non-governmental organizations and individual citizens. This broad-based approach to managing fish and wildlife resources extends beyond social and political boundaries and requires a foundation of support from many. Horicon and Fox River National Wildlife Refuges will continue to seek creative partnership opportunities to achieve its vision for the future.

Particularly notable partners of the Refuges include the Friends of Horicon National Wildlife Refuge, Refuge volunteers, Wisconsin Department of Natural Resources, Wisconsin Wetlands Association and Ducks Unlimited.

Step-down Management Plans

Step-down management plans describe specific actions that support the accomplishment of Refuge objectives. The management plans identified in Table 21 on page 94 and Table 22 on page 94 will be reviewed, revised, or developed as necessary to achieve the results anticipated in this draft CCP.

Archeological and Cultural Values

As part of its larger conservation mandate and ethic, the Service through the Refuge Manager applies the several historic preservation laws and regulations to ensure historic properties are identified and are protected to the extent possible within its established purposes and Refuge System mission.

Early in project planning for all undertakings, the Refuge Manager informs the RHPO (Regional Historic Preservation Officer) to initiate the Section 106 process. Concurrent with public notification and involvement for environmental compliance and compatibility determinations if applicable, or cultural resources only if no other issues are involved, the Refuge Manager informs and requests comments from the public and local officials through presentations, meetings, and media notices; results are provided to the RHPO.

Archeological investigations and collecting are performed only in the public interest by qualified archeologists or by persons recommended by the Governor working under an Archeological Resources Protection Act permit issued by the Regional Director. The Refuge Manager has found this third-party use of Refuge land to be compatible. (The requirements of ARPA apply to FWS cultural resources contracts as well: the contract is the equivalent of a permit.) Too, the Refuge Manager issues a special use permit. Refuge personnel take steps to prevent unauthorized collecting by the public, contractors, and Refuge personnel; violators are cited or other appropriate action taken. Violations are reported to the Regional Historic Preservation Officer.

The Refuge Manager will, with the assistance of the RHPO, develop a step-down plan for surveying lands to identify archeological resources and for developing a preservation program to meet the requirements of Section 14 of the Archeological

Figure 16: Current Staffing Chart, Horicon NWR

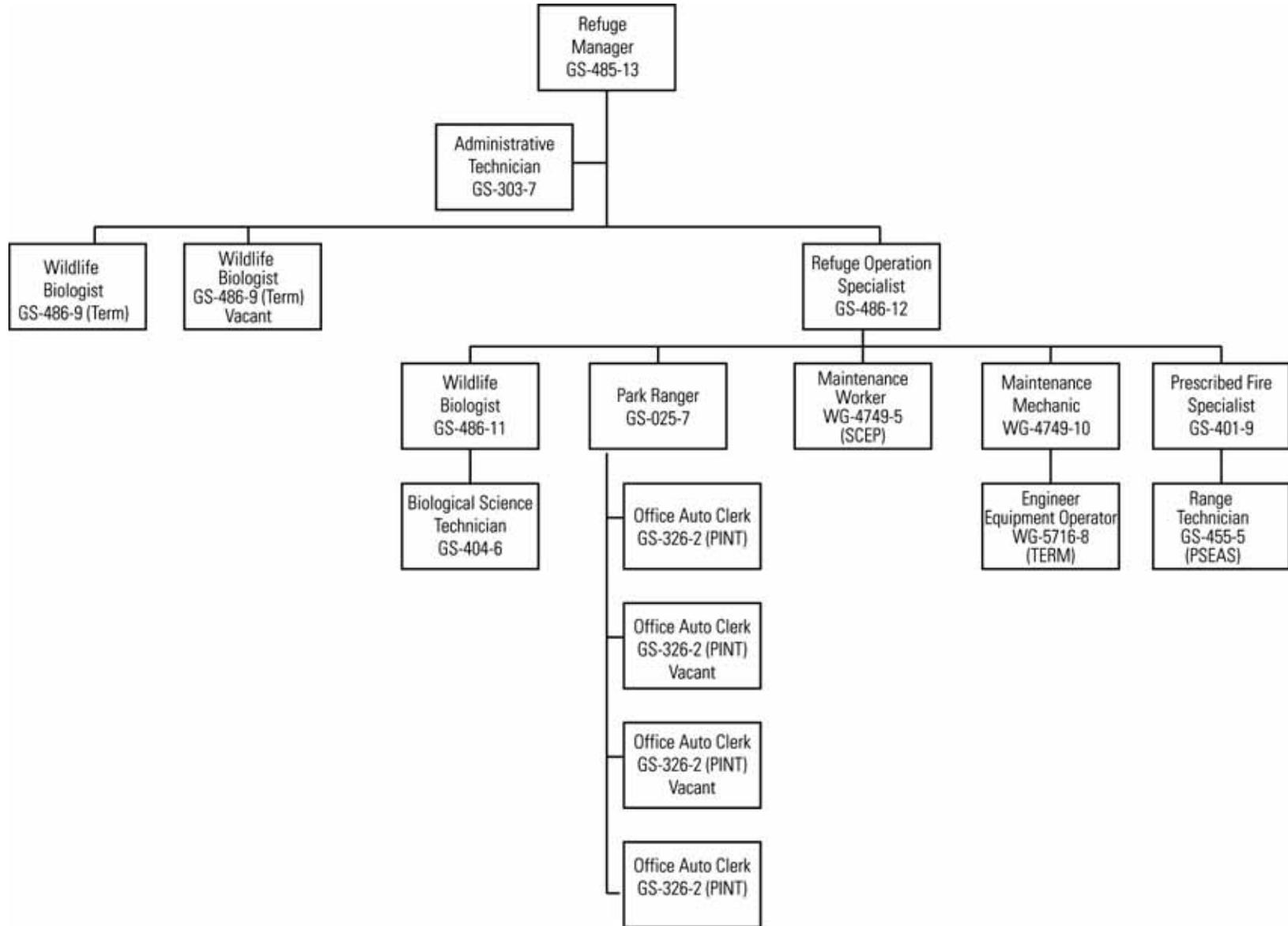


Table 21: Step-down Management Plan Schedule, Horicon NWR

Step-down Management Plan	Completed/Updated	Anticipated Revision
Visitor Services Plan	n/a	2008
Hunting Plan	1987	2007
Law Enforcement Plan	1992	2007
Furbearer Management And Trapping Plans	1979*	2008
Marsh & Water Management Plan ¹	1993*	n/a
Habitat Management Plan	n/a	2009
Wildlife Inventory Plan	1990	2008
Resource Inventory Plan	n/a	2008
Fire Management Plan	2001	2011
Cultural Resources Management Plan	n/a	2012
Accessibility Plan	n/a	2012
Fishing (Fisheries Management) Plan	1986	2008
Grassland Management Plan	1994	n/a
Safety Plan	1987	2008

1. Annual Management Plans are written for the Water Management and Trapping Plans

Table 22: Step-down Management Plan Schedule, Fox River NWR

Step-down Management Plan	Completed /Updated	Anticipated Revision
Visitor Services Plan	n/a	2010
Hunting Plan	1987	2007
Law Enforcement Plan	n/a	2007
Habitat Management Plan ¹	n/a	2009
Wildlife Inventory Plan	n/a	2008
Resource Inventory Plan	n/a	2008
Fire Management Plan	2001	2007
Cultural Resources Management Plan	n/a	2012
Accessibility Plan	n/a	2012
Fishing (Fisheries Management) Plan	n/a	2007
Safety Plan	1987	2008

1. Annual Management Plans are written for the Water Management and Trapping Plans

Resources Protection Act and Section 110(a)(2) of the National Historic Preservation Act.

The Refuge Manager should have and implement a plan for inspecting the condition of known cultural

resources on the Refuge and report to the RHPO changes in the conditions.

The Refuge Manager will initiate budget requests or otherwise obtain funding from the 1% O&M program base provided for the Section 106 process compliance:

1. Inventory, evaluate, and protect all significant cultural resources located on lands controlled by the FWS, including historic properties of religious and cultural significance to Indian tribes.
2. Identify and nominate to the National Register of Historic Places all historic properties including those of religious and cultural significance to Indian tribes.
3. Cooperate with Federal, state, and local agencies, Native American tribes, and the public in managing cultural resources on the Refuge.
4. Integrate historic preservation with planning and management of other resources and activities.
5. Recognize the rights of Native Americans to have access to certain religious sites and objects on Refuge lands within the limitations of the FWS mission.

Monitoring and Evaluation

The direction set forth in this CCP and specifically identified strategies and projects will be monitored throughout the life of this plan. On a periodic basis, the Regional Office will assemble a station review team whose purpose will be to visit Horicon NWR and evaluate current Refuge activities in light of this plan. The team will review all aspects of Refuge management, including direction, accomplishments and funding. The goals and objectives presented in this CCP will provide the baseline from which this field station will be evaluated.

