Chapter 4: Management Direction

Introduction

Goals and Objectives

This chapter presents the goals, objectives and strategies that will guide management and administration of the District over the next 15 years. This management direction represents the plan for the District and mirrors Alternative 4 in the Environmental Assessment that was prepared as part of the planning process (Appendix A).

The District has four goals:

1. Preserve, restore, and enhance the ecological diversity of wetlands, grasslands, and native flora of District lands to support the conservation of breeding habitat for waterfowl, grassland birds, and other wildlife.

2. Preserve, restore, and enhance the diversity and abundance of migratory birds and other native wildlife with emphasis on waterfowl, grassland and wetland-dependent birds.

3. A broad cross section of the public enjoys and appreciates District lands.

4. Protect the integrity of biological resources within the District and the cultural resources and health and safety of visitors and Service staff on WPAs.

The goals are general statements of what the District wants to accomplish. The objectives under each goal are specific statements of what will be accomplished to help achieve the goal. Strategies listed under each objective specify the activities that will be pursued to realize an objective. The strategies may be refined or amended as specific tasks are completed or new research and information come to light. Some strategies are linked to the duties of an employee position, which indicates that the strategy will be accomplished with the help of a new staff position. When a time in number of years is noted in an objective or strategy, it refers to the number of years from approval of this CCP. If no time is given, the objective is to be accomplished within the 15 years of the life of the plan.

Prairie habitat on Leopold WMD. USFWS photo.

Goal 1: Habitat

Preserve, restore, and enhance the ecological diversity of wetlands, grasslands, and native flora of District lands to support the conservation of breeding habitat for waterfowl, grassland birds, and other wildlife.

Objective 1.1: Grasslands

Restore 200 acres of native grassland and remove 1 mile of fence row annually, on average. Within 15 years, 70 percent of the District's grassland acres will be under optimal management.

Rationale: The District currently manages 4,875 acres of grasslands including 3,395 acres of seeded warm-season grasses, 48 acres of native prairie, 1,432 acres of cool season grasses including brome and Kentucky blue grass and approximately 300 acres of cropland in the process of conversion to native prairie. Grasslands benefit numerous species of wildlife in the District. Large tracts of grasslands provide important nest sites for Mallards and Blue-winged Teal, the two most common species of upland nesting waterfowl in the District. In addition to waterfowl, grasslands provide important habitat for many other species of migratory birds. The populations of many of these species of grassland-dependent birds are decreasing due to several factors. Loss of grasslands for nesting habitat is one of those reasons. The Western Meadowlark used to be one of the most common birds in Wisconsin but since the mid-1960s its numbers have declined by 90 percent. Many of Wisconsin's other 40 species of grassland-dependent birds have declined as well. Historically, these species were found in southern and western Wisconsin in this prairie grassland/wetland dominated landscape. Many of these grassland species of birds, such as Bobolink, Grasshopper Sparrow and Western Meadowlark, are Fish and Wildlife Service Regional Species of Concern.

The planting of native grasses and forbs is designed to provide structural (height-density) and species diversity to benefit breeding grassland-dependent birds. Removal of trees and woody vegetation also makes the grassland patches more attractive to grassland nesting birds. An increase in block size also provides better habitat for many species of grassland-dependent birds. Numerous studies have shown that trees and shrubs should be removed from within and around grassland patches to decrease nest predation and brood parasitism. Patches for restoration of grassland habitat should also be as large as possible to decrease contact with edge predators.

Several techniques are used to transition fields from cropland and exotic cool-season grasses to native species with the underlying realization that we cannot recreate a pure native plant species stand. Due to many outside influences such as past farming history, agricultural chemical use, erosion, invasive species and landscape level influences by humans, we will have to live with a certain number of invasive or exotic species in the grasslands we manage in the District. Total elimination of these species is not practical.

Depending on site conditions, transition techniques for converting cool-season fields include 3-year cropping rotation and various combinations of tree removal, chemical treatment, prescribed fire, cover crops and overseeding. Factors such as the availability of farmers to crop areas, soil types, erosion potential and existing species on the site are considered in deciding how best to restore and manage the site. Optimal management conditions will be reached when prescribed fire is the primary tool used to manage and maintain the grassland.

Strategies:

1. Seed agricultural fields on new acquisitions to local ecotype native prairie grasses and forbs within 3 years of acquisition. Evaluate cool season grass fields on new acquisitions within 2 years to determine long-term grassland management needs.
2. Continue the native prairie seed nursery.
3. Add two new local ecotype grass species and five new local ecotype forb species to the nursery planting mix within 10 years of plan approval.
4. Identify unbroken remnant native prairie on WPAs within 3 years and manage these sites to maintain the genetic diversity. The wildlife biologist position will be responsible for identification and inventory of these sites.
5. Maintain cooperative grazing, haying and mowing on 150 acres of grassland habitat.
6. Using prescribed fire, burn 1,200 acres of grassland annually to maintain quality grassland habitat.
7. Remove 15 miles of fencerows within 15 years to maximize unbroken blocks of grassland cover. The seasonal tractor operator will play an important role in removing fencerows.

8. Remove pine plantations and trees from grasslands on WPAs and work with adjacent landowners. Work with neighboring private landowners to remove trees on and adjacent to common property lines.
9. Work with neighbors to establish native grassland buffers around WPAs and remove common fence rows. The wildlife refuge specialist and private lands biologist positions will be responsible for contacting and working with neighbors.
10. Through chemical application, mechanical treatments, or mowing, treat areas infested with herbaceous and woody invasive species.
11. Target tree removal, native prairie planting and land acquisition, to create grassland blocks of at least 80 acres.

Objective 1.2: Wetlands

Within 15 years, restore 75 percent of the District's historical wetland acres, manage water levels on 1,000 acres (principally Uihlein WPA), and maintain seasonal basins in an early successional state through active management.

Rationale: The District currently has 5,265 acres of wetland. These wetlands provide important habitat for a variety of species including Mallards, Blue-winged Teal, Wood Ducks and many other species of migratory waterfowl. In addition, numerous species of shorebirds and other waterbirds use these areas for breeding and migration.

Drained wetlands on WPAs will be restored when feasible. In an effort to increase the number of wetlands surrounding WPAs, an attempt will be made to restore co-owned basins. Complexes of wetlands across the landscape provide feeding and loafing areas for waterfowl pairs. Restoration and protection of these basins in proximity to large tracts of grassland on WPAs is very important.

Basins with water control structures will be managed to cycle these basins through the phases of the wetland cycle (dry/hemi-marsh/open water) to provide a variety of habitat conditions. Where several wetlands on a single WPA have water management capabilities these basins will be managed to provide different stages of the wetland cycle. Manipulation of water levels on basins with water control structures can also increase invertebrate populations following re-flooding. Invertebrates are a crucial food source for waterfowl and other wetland-dependent species. Existing natural basins on the WPAs are not manipulated since naturally occurring drought and wet years provide natural cycling of vegetation and nutrients. Other spring-fed wetland basins and lakes on the District have good stands of submergent vegetation and manipulation may result in the spread of aquatic invasive species such as hybrid cattail or phragmities throughout the basin. Active manipulation of basins will generally occur on basins with water control structures or basins affected by invasive species.

Temporary and seasonal wetlands within the District are crucial for attracting breeding waterfowl pairs to the landscape, however many of these wetlands have become choked with invasive reed canary grass or cattail. In addition, these wetlands were easily drained and filled so active restoration and management is now needed to provide temporary shallow open water on the landscape. Many of these wetlands were located in croplands before Fish and Wildlife Service acquisition, so they were subject to high rates of sedimentation. Active manipulation of these basins may be necessary to restore some of the wetland functions. In addition to providing invertebrate food sources for hen waterfowl during egg laying, these basins are extremely important breeding habitat for amphibians. Active manipulation of the wetlands may include a variety of techniques including mowing, grazing, prescribed fire or mechanical manipulation through disking or scraping. Various techniques will be used to manipulate the basins and an attempt will be made to determine the most cost effective technique to manage these basins and simulate the natural disturbances that make them extremely productive and valuable for many species of wildlife.

The results of a broken tile on a Leopold WMD conservation easement. USFWS photo.

Strategies:

1. Maintain levees and water control structures.
2. Manipulate water levels through natural flow and pumping.
3. Complete an inventory of seasonal basins on WPAs and easements.
4. Use water management and prescribed fire to manage cattail dominated basins.
5. Monitor vegetative, invertebrate, and wildlife response to active management of seasonal basins and determine the most effective technique. The wildlife biologist will design and implement the monitoring for this project.
6. Work with neighbors to restore co-owned wetland basins.

Objective 1.3: Oak Savanna

Within 15 years, inventory 90 percent of forest habitat to locate remnant oak savanna and restore 75 percent of identified potential savanna.

Rationale: Unlike the Prairie Pothole Region where trees were a minor part of the historical landscape the natural vegetation within the Wetland Management Districts of Wisconsin historically contained a mix of grassland, wetlands, woodlands, and savanna. As such these natural landscapes should be retained and restored where applicable. Oak savannas especially are one of the most endangered ecosystems in the world with less than one-tenth of 1 percent remaining. Oak savannas are a fire-dependent community dominated by an overstory of oak trees and an understory of native grasses and forbs. The understory may also contain many species of desireable native shrubs, such as hazelnut and hawthorn. In the District, numerous species of oaks, including burr, white, Hill's and black, are found in oak savannas. Without fire to control succession, these communities are overrun with aggressive tree species such as maple, ash, buckthorn, Siberian elm and box elder that thrive in the open conditions in a savanna. Eventually, as the old oak trees die, these savannas turn into forest and lose their characteristic grass/forb dominated understory. With the suppression of wildfire and human development of the landscape, oak savannas are rapidly disappearing. Restoration of oak savannas is very labor intensive and often entails dramatic changes to the landscape. The process of restoring each savanna differs based on the number and species of oak trees present, the long-term viability of burning the unit and the degree of invasion by invasive species such as buckthorn, Siberian elm and honeysuckle. Although initial restoration of savannas will involve removal of non-oak tree species and some grass/forb planting, complete restoration through repeated burning and control of brush and invasives may take 30-40 years before a more natural fire regime of burning every 8-15 years can be used.

Strategies:

1. Using prescribed fire, burn 50 acres of oak savanna annually.
2. Mechanical removal of unwanted trees on oak savanna restoration sites.
3. Plant prairie grass and forb species.
4. Monitor vegetative response to management.
5. Add oak savanna grass and forb species to nursery program to enhance species diversity within restored savannas.

Objective 1.4: Woodlands

Implement timber stand improvement on 20 percent of forest habitat.

Rationale: As previously discussed, the woodlands are a historical part of the landscape of the Wisconsin Wetland Management Districts. Currently 1,330 acres of woodlands are found on District lands. It is necessary to inventory these forested areas and determine if they should be

Wetland restoration, Leopold WMD. USFWS photo.

restored to native grassland, oak savanna or managed as woodlands. For areas that will remain as forested habitat, timber stand improvement will be used on a limited basis to maintain the long-term viability of these woodlands. Timber stand improvement includes thinning, site preparation for natural reproduction, removal of undesirable tree species and release cutting or killing of undesirable older over topping trees. Timber stand improvement can increase production of foods valued by wildlife such as acorns and nuts and increase the value of forested areas to certain species of wildlife such as Wood Ducks, deer, Wild Turkey and numerous species of migratory birds. Timber stand improvement will be a tool used in limited areas on WPAs for specific management goals.

Strategies:

1. Implement timber stand improvement on select woodlots to provide benefits to wildlife. Timber stand improvement will include thinning, site preparation for natural reproduction and release by cutting or killing undesirable older overtopping trees.

Objective 1.5: Invasive Species

Inventory 100 percent of District lands for invasive species and apply biological/mechanical/chemical control on 25 percent of District lands. The first priority for control will be on grasslands and wetlands, followed by woodlands.

Rationale: Invasive species are detrimental to native plant and animal populations. Invasive species are considered to be one of the greatest threats to the National Wildlife Refuge System, and to the Leopold Wetland Management District. The District will target control of invasive species to those that directly affect habitats used by waterfowl and grassland-dependent birds. However, many of the invasive species found in woodlots, fencerows and forest are also common early successional invaders of grassland habitat, and therefore species such as buckthorn, honeysuckle, and Siberian elm must also be controlled. Many of the same natural disturbances, such as drought, flood and wildfire, that maintain productivity of natural systems, also provide opportunities for invasive species to multiply and spread. Human activities and disturbances on the landscape such as roads, yards, over-grazed pastures, and vehicle trespass etc. also create conditions conducive to the spread of invasive species. It is very important that the District staff are able to inventory and monitor the spread of invasive species and take actions to minimize the distribution of the species or control its abundance on the landscape. We will probably never be able to eliminate these species from the landscape but targeted biological, chemical, and mechanical controls along with prescribed fire may be useful in reducing their impact on native species. Certain high-quality remnant prairies or naturally functioning wetlands may warrant a more intensive strategy to control invasive species.

Strategies:

1. Inventory and map distribution of invasive species on WPAs and associated state lands. The wildlife biologist will play an important role in completing this project in partnership with volunteers and other organizations and agencies.
2. Develop integrated pest management plan for control of the species that have the most detrimental effect on wetland and grassland habitat on the District. (Wildlife biologist).
3. Collect and distribute biocontrol agents and coordinate mechanical and chemical control activities within the District to control invasive species.
4. Develop a monitoring program with volunteers.
5. Work with adjacent landowners and the DNR to control invasive species on a landscape level, targeting blocks of wetland and grassland habitat. The wildlife refuge specialist and private lands biologist will work on this project.

Objective 1.6: Land Acquisition

Acquire 600 acres per year.

Rationale: Funds for the acquisition of WPAs in Wisconsin will always be limited. Acquisitions are an important tool that will be targeted to protect lands that produce waterfowl and maintain the long-term viability of individual WPAs or public land complexes. Acquisition and management of large blocks of permanently protected wetland/grassland habitat in conjunction with other land management agencies and organizations will provide the greatest benefit to waterfowl production within the District. A

Wood Duck. USFWS photo.

landscape level analysis in coordination with partners is needed to understand predicted waterfowl production on a District-wide scale. This analysis will provide valuable information for acquisition and management programs by the Service and its partners.

Strategies:

1. Respond to inquiries regarding land acquisition.
2. Work to acquire roundouts of existing WPAs.
3. Identify and contact landowners of key, small inholdings.
4. Acquire lands that maximize block size of grassland-wetland complexes through the acquisition of key tracts that add to existing public habitat complexes.
5. Work in partnership with Wisconsin DNR and NAWCA to achieve goals outlined for the Glacial Habitat Restoration Area, Rush Lake Winnebago System Initiative, South Central Wisconsin Prairie Pothole Habitat Initiative, Horicon Marsh Headwaters, and Southeast Coastal Habitat Initiative.
6. Continue coordinating with the Farming and Conservation Together (FACT) group for land acquisition and habitat restoration projects in the Fairfield Marsh: A Conservation Partnership.
7. Secure funding from grants and partners to assist with land acquisition efforts.
8. Investigate long-term viability of select WPAs within the District to see if they will be able to meet the conservation goals of the WPA program. If the long-term viability is threatened by urban encroachment, trade these lands for high quality lands that will meet long-term waterfowl production goals.

Goal 2: Wildlife

Preserve, restore, and enhance the diversity and abundance of migratory birds and other native wildlife with emphasis on waterfowl, grassland and wetland-dependent birds.

Objective 2.1: Waterfowl

Develop a waterfowl recruitment monitoring program within 5 years of CCP approval that will include working with partners and a university to develop a waterfowl production and survival study.

Rationale: An assessment of waterfowl production through a waterfowl recruitment monitoring program and research study would provide additional information to assist in acquisition and restoration efforts within the District. The monitoring program and research studies would attempt to determine waterfowl pair density on the landscape, nest success and brood survival. When used in combination with on-the-ground knowledge of waterfowl use, analysis of GIS information including wetland density, grassland distribution and public ownership, waterfowl recruitment data can be a very valuable tool to direct management activities. Additional information is needed to understand local waterfowl populations and factors affecting recruitment within the Leopold Wetland Management District. Numerous land use changes have occurred throughout the Upper Midwest in the last 25 years and these changes have probably affected waterfowl production and distribution.

In addition to nest density and success, other factors such as duckling survival play an important role in recruitment. The District is located on the very eastern edge of what is considered prairie pothole landscape created by glaciers. Several studies have indicated that duckling survival plays a larger role in Mallard production in the Great Lakes region than in the prairie potholes of North and South Dakota. In contrast, nest success plays a larger role in waterfowl production in the Dakotas. In addition to prairie pothole habitat, there are several known

areas within the District that produce large numbers of waterfowl but do not resemble "traditional" prairie pothole habitat. In conjunction with local studies to assess waterfowl production and distribution, the recruitment data and on-the-ground knowledge of the landscape will provide valuable information for making management and acquisition decisions.

Strategies:

1. Partner with Wisconsin DNR, Great Lakes Joint Venture, and Ducks Unlimited to assess waterfowl production in Southeast Wisconsin. The wildlife biologist will take the lead on this project.
2. Partner with local university and the Service's Biological Monitoring Team to assess waterfowl production, recruitment and distribution. The wildlife biologist will take the lead with assistance from the biological technician on this project.

Objective 2.2: Federally Listed Threatened and Endangered Species

Assure that federally listed species and federally proposed species and their habitats are protected.

Rationale: At the present time two federally listed threatened or endangered species (Eastern prairie fringed orchid and Karner blue butterfly) and one species designated as a "Non-essential Experimental Population" (Whooping Crane) have been documented on District lands. Surveys for the presence of endangered species on additional WPAs will allow the District to change or modify management practices to avoid negative impacts and enhance these populations.

Wisconsin DNR electroshocking fish. USFWS photo.

Strategies:

1. Protect known occurrences of listed and proposed species.
2. Survey for presence/absence of listed and proposed species.

Objective 2.3: Regional Species of Concern

Develop baseline surveys to identify Regional Species of Concern use of District lands. Surveys will identify the presence/absence of species and abundance of select high priority species.

Rationale: Region 3's Regional Conservation Priority (RCP) list list includes rare and declining species, federally listed, and recreationally important species that are of high concern in the Upper Midwest. The RCP list was developed to help prioritize management within the Region. Knowing that the species are using the habitats on the District will be an indicator of success in providing for these species, with the exception of nuisance species. The District listed 79 bird species, three mammal species, four reptiles, one fish species, and eight insect species on the Region 3 RCP list. Monitoring is a key element in determining if District management is achieving its goals of providing habitat for key wildlife species. Monitoring can be costly if high precision is sought. For this plan, a monitoring plan will be developed and a survey will be conducted to confirm species presence.

Strategies:

1. Develop monitoring plan. The biologist will complete and implement this plan with assistance from the biological technician.
2. Continue to document observed fish and wildlife species and add to District species lists.

Objective 2.4: State T&E Species and Species of Concern

Consider known populations of state listed species in management actions.

Rationale: The range of several state listed species overlaps with District lands. Surveys need to be conducted to document the presence of these spe-

Great Blue Heron. USFWS photo.

cies on District lands. Monitoring can be costly if high precision is sought. For this plan, a monitoring plan will be developed and a survey will be conducted to confirm species presence. State threatened and endangered species will be considered in management actions on the District.

Strategies:

1. Document the presence of state listed species and add to District species lists.

Objective 2.5: Monitoring

Assess the value of local ecotype native seed mixtures and plantings for migratory birds.

Rationale: The District needs to develop a better understanding of the value and success of our local ecotype seed plantings to migratory birds. Studies in the Dakotas have suggested that a number of grassland-dependent bird species favor areas dominated by native vegetation. Although the District uses a very diverse mix of five grass species and 30-40 forb species, an assessment of the resulting diversity and heterogeneity of the plantings will be valuable in determining if the mixes are providing quality habitat. In addition, site specific conditions and planting techniques may result in mixed stands of native plants and cool season exotic species such as brome. The conversion of many of these fields to native plant species is an experiment in finding the optimal combination of native grasses and forbs. Ongoing monitoring and assessment of these plantings is needed to refine our restoration and management process and achieve the best habitat conditions. As habitat conditions change in these fields from monotypic stands of brome to a very diverse mix of native species, the District also needs to understand changes in migratory bird populations and adjust management strategies accordingly.

Strategies:

1. Develop a partnership with a university to conduct a research study on the native seed plantings and associated migratory bird use (wildlife biologist).
2. Assess the diversity and success of native seed plantings to evaluate restoration and management techniques (wildlife biologist).

Goal 3: People

A broad cross section of the public enjoys and appreciates District lands.

Objective 3.1: Visitor Services (General)

Improve visitor services facilities and programs to raise quality of visitors' experiences.

Rationale: The District is increasingly influenced by the growth of the Madison and Milwaukee metropolitan areas. The expanding residential development challenges the District's habitat and wildlife goals. The increased population in the District also offers an opportunity to offer wildlife-dependent recreation to more people leading to a greater understanding and appreciation for the natural world and wildlife conservation. WPAs are open to compatible wildlife-dependent recreation, but the District's facilities and services are lacking. Recreation information in print and on the internet is minimal, and there are few signs offering information and identification. Upgrades to facilities and programs are needed to satisfy basic standards of service.

To evaluate improvements across the entire visitor services program and summarize progress, the District will use the evaluation standards of RAPP (Refuge Annual Performance Plan). RAPP measures act as a general indicator of how successful management is in satisfying the criteria for quality of recreation use as described in the Service Manual Chapter 605 FW1.6. Some improvements are clearly needed and inferred from the criteria in the Service manual. These improvements are identified below in the strategies and under the strategies of the wild-

life-dependent activities listed in the next objectives. As the visitor services program of the District matures and more details are specified in a visitor services plan, the District will be able to move to more direct and specific measures of recreation quality. These direct measures will include a survey of visitors.

Not all WPAs are equally valuable for public access. Some have greater potential to offer quality recreation experiences. To use resources most effectively, the WPAs will be evaluated and those with the greatest potential for public use will be developed more fully. Likely WPAs to have increased attention include Uihlien, Becker, Shoveler's Sink, Schoenberg Marsh and Baraboo River. Development of public use facilities will be in addition to raising the general level of the visitor services program and some improvement at all WPAs.

Strategies:

1. Develop seven properties with parking lots, kiosks, and other compatible facilities. The Wildlife Refuge Specialist position will be responsible for developing these WPAs and coordinating long-term maintenance and management of these facilities.
2. Develop a visitor services plan based on the visitor services review completed in 2006 (wildlife refuge specialist).
3. Update the website following Regional mapping standards.
4. Improve District brochures and update the District's general brochure.
5. Update WPA maps and aerial photos.
6. Develop a work study partnership with local universities.
7. Develop and install interpretive panels on kiosks following regional standards.
8. Update boundary posting on all WPAs.
9. Install "Your Duck Stamp Dollars at Work" on all WPAs with enhanced visitor services facilities. In addition, put up these signs at other high visibility WPAs.

Objective 3.2: Hunting

Maintain a Service quality ranking of "good" and evaluate the quality of hunting visits within 15 years.

Rationale: As one of the six priority wildlife-dependent recreational uses identified in the National Wildlife Refuge System Improvement Act of 1997, hunting provides traditional recreational activities on the District with no definable adverse impacts to the biological integrity or habitat sustainability of District resources. Waterfowl production areas differ from national wildlife refuges in that they are open to hunting, fishing, and trapping by specific regulation, and open to the other wildlife-dependent recreational activities by notification in general brochures available at the District office. New and existing WPAs are thus "open until closed" versus national wildlife refuges, which are "closed until opened." Within the Leopold WMD, Blue-wing WPA in Ozaukee County and Wilcox WPA in Waushara County have been designated as closed to hunting.

In an effort to improve the quality of the hunting program, specific strategies will be implemented to meet criteria listed in the RAPP rating. The RAPP rating will give a general indication for how well the District is doing in providing quality hunting opportunities. But, to more directly and definitively evaluate the type and quality of experience as perceived by hunters, it will be necessary to get feedback from hunters. Therefore, before the end of the life of this plan, the District will survey hunters to document their experience. The survey data will be useful in evaluating the program and provide a basis for possible revisions in the program during the next cycle of planning. An increase in hunter knowledge of regulations through signage may also reduce illegal take of wildlife. Replacement of faded boundary signs and an increased emphasis on maintaining posting, parking lots and gates may also reduce trespass problems on WPAs and neighboring private lands.

Strategies:

1. See strategies under "Visitor Services (General)."
2. Develop a hunting plan.
3. Develop accessible hunting opportunities.
4. Survey hunters.

5. Install regulation signs at all WPA parking lots.
6. Replace faded and missing boundary signs on WPAs. The seasonal tractor operator will be responsible for assuring boundaries are clearly marked and posted.

Objective 3.3: Fishing

Consider the potential for recreational fishing when property is acquired and evaluate opportunities on existing waterfowl production areas if water levels increase enough to support fish.

Rationale: Although fishing is one of the six priority recreational uses identified in the National Wildlife Refuge System Improvement Act of 1997, fishing opportunities are virtually non-existant. This recreational use is secondary to the primary purpose for which the District was created and must be compatible with that purpose.

Most WPA wetlands are relatively shallow and do not support fish due to winter kill. Although several WPAs (Baraboo River, Uihlein, and Hinkson Creek) have waterways traversing or adjacent, there are higher quality fishing opportunities available on many other nearby lakes, rivers, or streams.

Strategies:

1. See strategies under "Visitor Services (General)."
2. As new acquisitions continue to be added to the WPA program, fishing opportunities will be evaluated.

Objective 3.4: Wildlife Observation and Photography

Maintain a Service quality ranking of "good" and evaluate quality of observation and photography visits within 15 years.

Rationale: Wildlife observation and photography are both priority wildlife-dependent recreational activities, which are listed in the National Wildlife Refuge System Improvement Act of 1997. These recreational uses are secondary to the primary purpose for which the District was created and must be compatible. The District has the potential to provide opportunities for wildlife observation and photography in the rapidly growing portions of the Madison and Milwaukee metropolitan areas. Some of the WPAs are scenic, but the general lack of visitor facilities and low public awareness does not promote visits by the public. The quality of a visit would be enhanced for the casual visitor by developing trail access, an observation platform, and interpretive messages. Developing visitor services amenities on the most suitable WPAs and promoting them in the local community will increase visitation and foster a connection between visitors and nature.

Strategies:

1. See strategies under "Visitor Services (General)"
2. Develop a short loop trail and overlook on at least two WPAs.
3. Develop a bird list brochure.
4. Develop a theme for interpretive materials.
5. Recruit volunteers to support observation and photography program.
6. Promote sales of duck stamps and the role of duck stamps in WPA land acquisition.

Objective 3.5: Environmental Education and Interpretation

Achieve a Service quality ranking of "good" within 5 years and evaluate quality of environmental education and interpretation visits within 15 years.

Rationale: Environmental education and interpretation are both priority wildlife-dependent recreational activities, which are listed in the National Wildlife Refuge System Improvement Act of 1997. These recreational uses are secondary to the primary purpose for which the District was created and must be compatible. Little environmental education or interpretation has occurred in the District. Interpretive themes have not been formally developed, and the District office has minimal space for interpretive information. WPA parking lots are not easily accessible for school buses, and there are no accessible trails on the District for school groups and the general public. The District's approach in the past has been to respond case-by-case to inquiries from teachers. The District staff provides interpretive programs to partners and other organizations as requested. The programs primarily consist of overviews of the District and current management practices.

District staff tie bundles of brush. USFWS photo.

Since the District will probably not have an environmental education specialist position during the life of the plan, an emphasis will be to develop educational materials and information that schools and groups can use on self-guided visits to WPAs. The value of the environmental education and interpretation program will be to increase public understanding of the WMD and its goals. This program should complement the activities of community outreach and seek to increase stewardship of WPAs and wildlife habitat.

Strategies:

1. See strategies under "Visitor Services (General)."
2. Include school bus turn-arounds among public use improvements proposed for some WPAs.
3. Seek cooperation from university programs to create environmental education materials for District programs.
4. Develop a theme for interpretive materials.
5. Upgrade interpretive materials available at headquarters.
6. Present at least five interpretive/informational programs per year.
7. Work with the Horicon NWR park ranger to complete education and interpretation projects on the WMD.
8. Develop orientation kiosks at WPAs and include interpretation.

Objective 3.6: Volunteers

Volunteers contribute 300 hours per year within 2 years of plan approval.

Rationale: Opportunities for enhancing the wildlife and visitor services programs will likely always exceed the District's budget. Therefore, all District activities will benefit from volunteer participation, and certain activities will require volunteer participation to be successful. Many of the WMD goals, such as increasing local ecotype forb and grass harvest and controlling invasive species, will require large amounts of volunteer time to complete. A coordinated and efficiently run volunteer program will be essential to achieving many District goals. The wildlife refuge specialist position will be very important in developing and coordinating the volunteer program which will be successful if there is personal contact and follow-up with the volunteers.

Strategies:

1. Recruit new volunteers to assist with resource management and visitor services.
2. Recognize and supervise volunteers as adjunct staff.
3. Coordinate volunteer activities within the resource management and visitor service programs. (Wildlife biologist and wildlife refuge specialist)
4. Follow Service guidelines for volunteer management.
5. Expand the volunteer program to include organized groups of volunteers to complete large projects such as seed harvest, seed nursery weed control and invasive species control.

Objective 3.7: Partnerships

Increase and improve partnerships over the level of the 2007 program.

Rationale: The value of a WPA is enhanced when it exists in a complex of wetlands. A WPA adjacent to other wetlands is more valuable to waterfowl than one that is isolated in an agricultural or residential landscape. And, no one organization or person can match the accomplishments of several entities work-

ing together. It is important, therefore, for the District to work with neighbors, other government agencies, and private organizations to improve the District's landscape for the benefit of migratory birds, other wildlife, and humans. Many WPAs are located immediately adjacent to or within a short distance of State Wildlife Areas or other public lands. Since the main objective of the District's habitat management program is to provide large blocks of quality wetland and grassland habitat for nesting waterfowl and other migratory birds, the Service should work with partners to assist with projects that meet this goal, regardless of ownership boundaries. Several focus areas and project areas overlap the geographic area of the District and complement the Service's goal of providing habitat for waterfowl and other grassland and wetland dependent migratory birds.

The Upper Mississippi River and Great Lakes Joint Venture Implementation Plan of 2007, as part of the North American Waterfowl Management Plan, identifies the Glacial Habitat Restoration area and south central Wisconsin Prairie Pothole Initiative, both of which include portions of the District, as high priority areas for conserving breeding waterfowl habitat. The implementation plan encourages private-public partnerships in a landscape approach to conservation. Based on the past success of the partnerships, the District will continue its participation and coordination in this program to pursue the synergistic benefits of cooperation.

Ducks Unlimited has identified a priority area in Eastern Wisconsin, which includes the District, as a focus for protecting and restoring small seasonal wetlands, re-establishing native prairie adjacent to wetlands for production habitat, and expanding existing state and federal wildlife areas. Ducks Unlimited and its partners have been active in conserving wetland and upland habitat in the past. Because of past success, the District will continue to actively work with these partners in further habitat work.

The State of Wisconsin has identified the Glacial Habitat Restoration Area (WPHRA) as a focus for the state. It is one of two HRAs in the State of Wisconsin. The GHRA was established to protect and restore 38,600 acres of grassland and 11,000 acres of wetland habitat in portions of Columbia, Dodge, Fond du Lac, and Winnebago Counties. The Wisconsin DNR and partners will use several tools, including acquisition of fee title or easements to protect important grassland and wetland habitat.

The District has been extremely active in coordinating acquisition, restoration, and management opportunities through the Lower Fox River/Green Bay Natural Resources Damage Assessment (NRDA). This NRDA is the result of levees paid by paper companies responsible for releases of PCBs into the Lower Fox River/Green bay Ecosystem and which are to be used for acquisition, restoration, and remediation.

Strategies:

1. Active implementation of the Upper Mississippi Joint Venture Plan and Ducks Unlimited Eastern Wisconsin Focus Area.
2. Active implementation of the Glacial Prairie Habitat Restoration Area in partnership with the Wisconsin DNR.
3. Work with land management organizations including the Wisconsin DNR, National Park Service, and many others to implement landscape level habitat protection and restoration.
4. Increase partnering with conservation organizations.
5. Evaluate creating a "Friends of Leopold WMD."

Objective 3.8: Community Outreach

Within 5 years identify neighbors to 40 percent of the District's WPAs and provide them with information about waterfowl management and make 5 public presentations per year to civic groups, local governments, and other organizations to develop community support and action for waterfowl management across the entire District, both on and off Service lands.

Rationale: The District considers its neighbors and visitors to be very important. The District is an asset to the community and the continued support of the community is essential for the success of the District. It is important that the District continues efforts to build and maintain open communication with neighbors to let them know the successes, challenges, and opportunities in conservation and wildlife-dependent recreation. In an ideal setting, the objective would be to achieve an appreciation of the

Aphrodite butterfly. USFWS photo.

value and need for fish and wildlife conservation among a larger percentage of the population living around the District. The success in achieving the objective would be determined through a survey of the general population. However, for an objective to be useful it must be measurable in both a conceptual and practical sense. It is not practical to propose that the District will conduct a survey of the general population anytime in the next few years, because the approvals and costs are beyond the likely resources of the District. As an alternative, the objective reflects the assumption that providing neighbors and community members with written and oral information will lead to positive conservation attitudes and action. Public understanding of the purpose of District lands, including appropriate and compatible uses, may lead to a reduction in illegal uses such as snowmobiling, dumping, littering, dog training and off-road vehicle use. Public understanding and acceptance of District purposes are also important in maintaining the long-term viability of using management practices such as grazing and prescribed fire to maintain grassland and wetland habitat.

Strategies:

1. Develop neighbors e-mail list.
2. Develop an outreach plan.
3. Work with UW Extension to develop wildlife and habitat materials for neighbors and conservation organizations on WPA management. (Wildlife refuge specialist)
4. Engage neighbors in active habitat management. (Wildlife refuge specialist)
5. Contact neighbors the day of prescribed fires.

Goal 4: Land and Visitor Protection

Protect the integrity of biological resources within the District and the cultural resources and health and safety of visitors and Service staff on WPAs.

Objective 4.1: Conservation Easements

Meet Service monitoring guidelines for FSA easements over next 15 years.

Rationale: The District is responsible for managing Farm Services Administration (FSA, formerly known as FmHA) within the 34-county District. These easements were placed on the properties when landowners defaulted on their Farmers Home Administration loans. Properties were then resold to the original landowner at a discounted price due to the easement or sold to another individual. The Service is designated as the easement manager and is responsible for habitat management on the easement and enforcement of easement provisions. These easements provide additional wetland and grassland habitat throughout the District. Several of the easements are located close to WPAs or other public lands and therefore provide complementary wildlife benefits to these lands.

The new use of the Service wetland and grassland easement program as well as partnerships with other agencies and organizations to use existing easement programs will provide long-term benefits to wildlife populations. The concept of wetland and grassland easements is to provide waterfowl habitat on a landscape scale while allowing land to remain in private ownership.

Strategies:

1. Annually inspect each FSA easement and follow up with landowner contact.
2. Send letters to new landowners informing them of existing easements on their property, along with the associated regulations.
3. Follow protocols within the Service's easement manual to handle all potential violations.

Objective 4.2: Partners for Fish and Wildlife

Restore 120 acres of wetland, grassland, and oak savanna habitat per year with emphasis on focus areas.

Rationale: Over 85 percent of the land in the Leopold WMD is in private ownership. Only by working with private landowners will the Service be able to affect migratory bird populations on a broader landscape scale. The complementary affects of restoring wetlands adjacent to WPAs or other large wetland/grassland complexes will increase the value of these grasslands by providing additional wetland habitat for waterfowl pair and feeding habitat. In addition to the on-the-ground habitat restoration, there are also significant benefits for a broader public understanding of the Service's mission and goals when private lands biologists interact with landowners. Increasing public knowledge and understanding of habitat and wildlife should also result in greater stewardship of our natural resources. The Partners for Fish and Wildlife Program will play an important role in complementing many of the other objectives and strategies in this CCP including community outreach, partnerships, identification of focus areas and landscape conservation initiatives.

Strategies:

1. Work with Wisconsin DNR, private landowners and other partners to restore important wetland, grassland, oak savanna and riparian habitat.
2. Work with USDA to facilitate available programs such as the Conservation Reserve Program (CRP), Wetlands Reserve Program (WRP) and Environmental Quality Incentives Program (EQIP) to protect valuable wildlife habitat.

Objective 4.3: Enforcement

Visitors feel safe and the resource is protected.

Rationale: The District is responsible for protecting District resources and providing a safe environment for employees and visitors. The District's law enforcement program is a critical tool in protecting trust resources, habitat, public facilities, employees, and the visiting public. To provide this essential service, the District will share regional resources and cooperate with other law enforcement authorities to meet its responsibilities.

Strategies:

1. Share regional law enforcement resources.
2. Partner with Wisconsin DNR Conservation Wardens.

Objective 4.4: Cultural Resources

Over the life of the plan, avoid and protect against disturbance of all known cultural, historic, or archeological sites.

Rationale: Cultural resources are an important facet of the country's heritage. Leopold WMD, like all national wildlife refuges and wetland management districts, remains committed to preserving archeological and historic sites against degradation, looting, and other adverse impacts. The guiding principle for management derives from the National Historic Preservation Act of 1966 as amended, 16 U.S.C. 470 et seq. and the Archeological Resources Protection Act of 1979 as amended, 16 U.S.C. 47011-mm, which establish legal mandates and protection against identifying sites for the public, etc. The District must ensure archeological and cultural values are described, identified, and taken into consideration prior to implementing undertakings. It is also essential that new site discoveries are documented. In order to meet these responsibilities, the District intends to maintain an open dialogue with the Regional Historic Preservation Officer (RHPO) and to provide the RHPO with information about new archeological site discoveries. The District will also

Mallard Duck nest. USFWS photo.

cooperate with Federal, state, and local agencies, American Indian tribes, and the public in managing cultural resources on the Refuge.

Strategies:

1. Conduct site-specific surveys prior to ground disturbing projects and protect known archeological, cultural and historic sites.
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. Inform the RHPO early in project planning to ensure compliance with Section 106 of National Historic Preservation Act.
4. Contract with cultural resources firms specializing in Wisconsin to conduct Phase I surveys prior to undertakings that could adversely affect historic resources.
5. In the event of inadvertent discoveries of ancient human remains, follow instructions and procedures indicated by the RHPO.
6. Ensure archeological and cultural values are described, identified, and taken into consideration prior to implementing undertakings.
7. Inspect the condition of known cultural resources on the District and report to the RHPO changes in the conditions.
8. Integrate historic preservation with planning and management of other resources and activities.