

Chapter 4: Management Direction

Introduction

This chapter presents the objectives and strategies that will guide management and administration of the Refuge over the next 15 years, or through 2021. This management direction, along with maps in Appendix E, represents the plan for the Refuge and mirrors Alternative E in the Final EIS/CCP prepared as part of the planning process. Table 23 on page 139 and Table 24 on page 146 summarize and compare the existing condition/program with action in this CCP.

Elements Common to All Objectives

Interagency Coordination and Collaboration

The Refuge is situated in a complex geopolitical landscape involving four states and two Corps of Engineers Districts, each with varying missions, authorities, and constituencies. Interagency coordination was discussed in Chapter 1 and is an important element common to all objectives, and indeed, will be critical to carrying out the CCP. Existing plans and agreements such as the Land Use Allocation Plan and Service-Corps of Engineers Cooperative Agreement will continue to serve as guides for day-to-day Refuge decisions and implementation of the CCP. Also critical will be the continued involvement of various established interagency forums, committees, and associations.



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Agency Access to Restricted Public Use Areas (Waterfowl Hunting Closed Areas, Slow, No Wake Areas, and Electric Motor Areas)

Special area regulations are general public use regulations and not intended to apply to state, federal, and local agencies or offices engaged in bona fide fish and wildlife management, monitoring, and enforcement. However, it is hoped that all agencies use discretion and good judgment when working in areas or with equipment the general public is restricted from using. This is important from both a wildlife disturbance and public perception standpoint.



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National Environmental Policy Act (NEPA) Compliance

Since this CCP is programmatic in many issue areas, it may not contain the necessary detail on every future action outlined to adequately present and evaluate all physical, biological and socioeconomic impacts. For example, although the CCP may show the number and location of constructed features such as trails, overlooks, boat ramps, and offices, exact sites, size, design, and other features would be determined at a later date depending on funding and implementation schedules. Another example is the various sub or “step-down” plans required for various management actions such as forestry, biological monitoring, fishery and mussel resources, hunting, and trapping. Thus, before certain objectives or actions are implemented, a decision will be made in coordination with the Regional NEPA Coordinator on whether the EIS was adequate for each specific construction, planning, or other action, or whether separate step-down NEPA compliance (categorical exclusions or environmental assessments) is needed.

Threatened and Endangered Species Protection

Although different levels of monitoring for threatened and endangered species are proposed in the CCP, protection of these species is common across all objectives. The protection of federally-listed species is the law of the land through the Endangered Species Act of 1973. It is also Service policy to give priority consideration to the protection, enhancement, and recovery of these species on national wildlife refuges (7 RM 2). To ensure adequate protection, the Refuge is required to review all activities, programs, and projects occurring on lands and waters of the Refuge to determine if they may affect listed species. If the determination is

“may affect,” the Refuge does a formal consultation with the responsible Ecological Services office of the Service.

Archeological and Cultural Resource Protection

Cultural resources on federal lands receive protection and consideration that would not normally apply to private or local and state government lands. This protection is through several federal cultural resources laws, executive orders, and regulations, as well as policies and procedures established by the Department of the Interior and the Service. The presence of cultural resources including historic properties cannot stop a federal undertaking since the several laws require only that adverse impacts on historic properties be considered before irrevocable damage occurs. However, the Refuge will seek to protect cultural resources whenever possible.

During early planning of any projects, the Refuge will provide the Regional Historic Preservation Officer (RHPO) a description and location of all projects and activities that affect ground and structures, including project requests from third parties. Information will also include any alternatives being considered. The RHPO will analyze these undertakings for potential to affect historic properties and enter into consultation with the State Historic Preservation Officer and other parties as appropriate. The Refuge will also notify the public and local government officials to identify any cultural resource impact concerns. This notification is generally done in conjunction with the review required by the National Environmental Policy Act or Service regulations on compatibility of uses.

Fire Management

The suppression of wildfires and the use of prescribed or controlled fire are a long-standing part of resource protection, public safety, and habitat management on national wildlife refuges. In 2002, a comprehensive Fire Management Plan was approved for the Refuge and provides detailed guidance for the suppression or use of fire. The plan outlines wildfire response and prescribed fire objectives, strategies, responsibilities, equipment and staffing; burn units; implementation; monitoring; and evaluation. The complete Fire Management Plan and Burn Unit Maps are available at the Winona Headquarters Office, or on-line at <http://midwest.fws.gov/planning/uppermiss/index.html>.

Prescribed fire will be used every 3-5 years on approximately 5,700 acres of Refuge grassland. This area is divided into approximately 40 burn units, most of which range in size from 1 to 125 acres. These units are scattered throughout the Refuge and include islands and natural rises or terraces in the floodplain, and former agricultural fields in or adjacent to the floodplain. Units are generally isolated from private dwellings or other development and they are generally flat or gradually sloping. During a recent 10-year period, the yearly average was eight prescribed burns on a total of 160 acres. Most burns occurred during the April-May time period. The annual average acreage burned is expected to increase due to the 2001 addition of the Lost Mound Unit, Savanna District, which includes approximately 4,000 acres of native prairie, a fire-dependent ecosystem.

Each prescribed burn is governed by a specific prescribed burn plan which dictates the criteria or prescription for air temperature, fuel moisture, wind direction and velocity, soil moisture, relative humidity, and other environmental factors. Burns are not conducted unless these prescriptions are



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met, and possible impacts to archaeological resources or endangered species avoided or mitigated. Each plan also outlines required staffing and equipment including contingency actions for smoke management and escaped fire. Coordination with local and state fire management officials, as well as adjacent landowners, is done prior to conducting a burn. A strict chain-of-command and “burn-no burn” protocol is followed.

General Water-Based Recreation

Due to the Refuge’s overlap with varied jurisdictions, navigable waters, and a major commercial navigation project, existing uses related to water recreation will not be eliminated and their continuation is common to all objectives. These water-based uses include, but are not limited to, powerboating, waterskiing, jetskiing or other personal watercraft use, sailing, swimming, picnicking, and social gatherings. However, these uses will continue to be subject to applicable Refuge, state, Corps of Engineers, and Coast Guard regulations, and may be restricted in terms of location and/or season in some elements of some of the objectives presented.

Mosquito Management

Although not specifically raised as an issue during scoping and public involvement, the management of mosquito populations may emerge as a future concern given the increased incidence of mosquito-borne illnesses in parts of the Midwest. Due to the possible harmful effects, mosquito population control will only be allowed in cases of a documented health emergency by state departments of health or similar disease control agencies. Control efforts would be species and location specific, based on population sampling and identified population thresholds, and use the least intrusive means possible.

Fish and Wildlife Disease Control

Periodically, the Refuge may experience threats to fish and wildlife from a variety of ongoing or sporadic outbreaks of diseases or ailments such as Chronic Wasting Disease in deer and avian botulism, trematode infestations, or avian cholera in waterfowl. Appropriate control efforts will be undertaken if warranted, feasible, and effective to limit the impacts on fish and wildlife populations. The Refuge will cooperate and coordinate with the states in these efforts. The Refuge has prepared a

Chronic Wasting Disease monitoring and surveillance plan which details efforts with the states on this disease.

Volunteers and Friends Groups

The Refuge currently has an active volunteer program involving dozens of citizens. These volunteers contribute over 8,000 hours annually, assisting with a full-range of administrative, biological monitoring, invasive species control, and visitor services tasks. The nurturing and use of volunteers will continue and is a vital component of many of the objectives in the CCP. The Refuge also has an active friends group called the Friends of the Upper Mississippi River Refuges (FUMRR). This citizen-based support group raises funds for needed projects, conducts special raises programs which support the goals of the Refuge and the mission of the Refuge System, and serves as an advocate for the Refuge at various levels of government. Like volunteers, FUMRR will play an important role in the strategies to achieve many of the objectives outlined in this document.

Goals, Objectives and Strategies

Goal 1: Landscape

We will strive to maintain and improve the scenic qualities and wild character of the Upper Mississippi River Refuge.

Objective 1.1: Maintain the Integrity of the Refuge Boundary

In coordination and cooperation with the Corps of Engineers, identify, survey, and post all boundary lines where threat of encroachment is greatest by 2021.

Rationale: Maintaining and enforcing a boundary is one of the basic and critical components of Refuge management to ensure the integrity of an area over time. Without attention to this basic task, there is a tendency for adjacent development and use to creep and take over Refuge lands and waters. This encroachment includes tree cutting, dumping, construction, storing of equipment and materials, and mowing Refuge lands. In addition, there are a few boundaries between Refuge and Corps of Engineers-managed lands that remain unclear, leading to mixed messages to the public using these lands via permits, leases, or out grants. The size, length, age,



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and floodplain setting of the Refuge, coupled with a mix of Corps of Engineers-acquired and Service-acquired lands, creates boundary clarity problems that can only be addressed through modern re-surveying techniques. This objective also focuses on problem areas versus the entire boundary to reflect the realities of survey time and costs.

Strategies

1. Conduct an annual review of the posted Refuge boundary to detect and address any encroachment incidents, and coordinate enforcement with the Corps of Engineers and states as appropriate.
2. In collaboration with the Corps of Engineers, identify and prioritize boundary areas most in need of clarification by surveying and reposting.
3. Seek joint Corps of Engineers and Service funding to complete needed surveys based on priorities.
4. In collaboration with the Corps of Engineers and the states, and with appropriate public involvement, review, update, and publish a new Land Use Allocation Plan for lands within the Refuge (see Chapter 1 for discussion of this plan).

Objective 1.2: Land Acquisition

By 2021, acquire from willing sellers 58 percent of the lands identified for acquisition in the 1987 Master Plan and subsequent approvals, as identified on the maps in Appendix G of the Final EIS/CCP (approximately 1,000 acres/year).

Rationale: Land acquisition is a critical component of fish and wildlife conservation since it permanently protects their basic need of habitat. It is also a cornerstone of promoting wildlife-dependent recreation by providing lands and waters open to all. On a narrow, linear refuge, land acquisition is a critical component of restoring habitat connectivity needed for the health of many species. The Refuge currently ranks sixth nationally on the Service's Land Acquisition Priority System due to its resource importance. Land acquisition can also be cost effective in the long-term due to inflation of land costs and the costs of acquiring undeveloped land versus developed land that also needs restoration. This objective represents an aggressive land acquisition program of about 1,000 acres per year to achieve goals set in the 1987 Master Plan and other approved acquisition documents. Lands with the highest fish and wildlife values were coded "A" in the 1987 Master Plan, and this ranking system remains a useful prioritization tool. However, public use values would also be considered when setting priorities between available tracts in keeping with the balanced approach of this alternative.

Strategies

1. Seek consistent Land and Water Conservation Fund appropriations to meet the objective (approximately \$1.5 million per year at \$1,500 per acre).
2. Explore land exchanges with the states to remove intermingled ownerships.
3. Continue to work with the Department of the Army to transfer title of tracts as they are cleaned of contaminants at the Lost Mound Unit (former Savanna Army Depot).

Objective 1.3: Bluffland Protection

By 2021, acquire from willing sellers protective easements or fee-title interest in all undeveloped bluffland areas within the approved boundary of the Refuge as identified in the 1987 Master Plan. (See maps in Appendix G of the Final EIS/CCP)

Rationale: There have been no acquisitions of bluffland areas since first identified in the 1987 Mas-

ter Plan, and this objective represents a more aggressive approach to safeguarding the wildlife values of these areas. In recent years, Peregrine falcons have once again started nesting on the rock faces of some bluffs. Peregrines, at one time an endangered species, were the main rationale for including the 13 areas in the acquisition boundary. Blufflands are also an important part of maintaining the scenic quality of the Refuge landscape and harbor unique and diverse plants and animals. Since some areas identified have been developed for housing or other uses since 1987, the focus would be on the undeveloped areas. However, there may be an opportunity to protect remaining values of these developed areas through creative easements. Fee or easement acquisition authority was granted by Regional Director approval of the 1987 Master Plan and is in addition to original acquisition authority in the 1924 act creating the Refuge and authorizing acquisition of lands subject to overflow.

Strategies

1. Seek consistent acquisition funding as noted in Objective 1.2 and use a blend of easements and fee-title acquisition that best meets landowner's desire and balances wildlife and public use objectives.
2. Work with the state, local governments, and private land trusts to protect bluffland habitat and scenic values.
3. Work with local units of government to encourage zoning regulations that protect bluffland scenic qualities.
4. Educate the public on the values of blufflands for birds and unique plant communities.

Objective 1.4: Research Natural Areas and Special Designations.

By 2010, complete a management plan for each of the Refuge's four federally-designated Research Natural Areas. No new Natural Areas would be established. (See maps in Appendix E and Table 24 on page 146.) Also by 2008, facilitate preparation of a nomination package for designating the Refuge a "Wetland of International Importance" in accordance with the Ramsar Convention.

Rationale: The Refuge has done little in the way of monitoring or research on the existing Research Natural Areas. Although the main goal of the area designation is the preservation of unique floodplain forest areas, preservation may often entail some

level of management. No management plans have been written to guide monitoring and research of current habitat conditions and changes since the areas were designated in the 1970s. Completing a management plan for each area would identify monitoring protocols, any habitat management needed to retain original biological values or address threats, address any special public use considerations, and identify ways to foster public awareness and appreciation of these unique areas. No areas of the Refuge are deemed suitable for new Natural Area designation.

Designating the Refuge a Wetland of International Importance would raise its stature in line with previously designated national wildlife refuges including Horicon National Wildlife Refuge in Wisconsin and Sand Lake National Wildlife Refuge in South Dakota. Designation would recognize the Refuge's international importance to migratory birds, as well as its uniqueness in balancing a variety of commercial, cultural, and recreational values, values supported in the 115-nation treaty stemming from the Ramsar Convention and reflected in this integrated CCP. Designation would also foster the sharing of scientific information and elevate management attention when facing future needs and challenges. Designation does not relinquish sovereignty or jurisdictions in any manner.

Strategies

1. The District Managers will be responsible for completion of management plans for natural areas in their respective Districts, using a consistent approach and format, and in cooperation with the states and other federal agencies as appropriate (e.g. Nelson-Trevino).
2. Seek cooperative research and monitoring opportunities with other agencies and colleges and universities.
3. Ensure yearly review of Research Natural Area boundaries to ensure integrity of the areas.
4. Work collaboratively with the Corps of Engineers, the states, non-government organizations, and the public in preparing a nomination package for Wetland of International Importance designation.

Goal 2: Environmental Health.

We will strive to improve the environmental health of the Refuge by working with others.

Objective 2.1: Water Quality.

Working with others and through a more aggressive Refuge program, seek a continuous improvement in the quality of water flowing through and into the Refuge in terms of parameters measured by the Long Term Resource Monitoring Program of the Environmental Management Program (dissolved oxygen, major plant nutrients, suspended material, turbidity, sedimentation, and contaminants).

Rationale: The quality of water on the Refuge is one of the most important factors influencing fish, wildlife, and aquatic plant populations and health, which in turn influence the opportunity for public use and enjoyment. Water quality is also beyond the Refuge's ability to influence alone given the immense size of the Refuge's watershed and multiple-agency responsibilities. This objective recognizes these limitations, but charts a more aggressive role for the Refuge through the strategies below. The objective also highlights the advocacy role the Refuge can play in educating the public and supporting the myriad of agencies which together can influence water quality.

Strategies

1. Hire a Private Lands Biologist or Technician for each of the Refuge's four Districts to restore and enhance wetland, upland, and riparian habitat on private lands in and along sub-watersheds feeding into the Refuge, and to broker the myriad of private land and conservation opportunities available through the Department of Agriculture and others.
2. Take an active role in the Midwest Driftless Area Restoration Effort, part of the National Fish Habitat Initiative, which seeks to protect, restore, and enhance riparian and aquatic resources in the Driftless Area which adjoins much of the Refuge.
3. Increase conservation assistance agreements with Soil and Water Conservation Districts and Resource Conservation and Development boards.
4. Begin a regular and recurring dialogue with U.S. Geological Survey scientists at the Upper Midwest Environmental Sciences Cen-

ter, La Crosse, Wisconsin, to help devise and fine tune strategies specific to addressing sedimentation problems.

5. Cooperate with local government land use planning efforts to ensure that water quality impacts to the Refuge are considered.
6. Emphasize water quality aspects, especially sediment deposition in backwaters, in all habitat enhancement projects.
7. Link planning and projects for tributary watersheds to Environmental Pool Plan implementation using the latest GIS-based mapping and modeling.
8. Support cooperative water quality monitoring and improvement efforts through the Upper Mississippi River Conservation Committee and other groups and agencies.
9. Continue to stress the importance of water quality in public information, interpretation, and environmental education programs.

Objective 2.2: Water Level Management.

By 2021, in coordination with the Corps of Engineers and the states, complete as many pool-wide drawdowns as practicable based on ecological need, engineering feasibility, and available funding.

Rationale: Lowering the water levels in impoundments during the growing season is a proven management practice to increase emergent vegetation. Improved vegetation results in more food and cover for a wide range of fish and wildlife species, which in turn enhances opportunities for wildlife-dependent recreation. Much of the emergent vegetation on the Refuge has been lost due to stable water regimes created for navigation, and this objective seeks to restore productive marsh habitat to thousands of acres. Although drawdowns show great promise in enhancing aquatic vegetation in all pools, priorities and timing need to be tempered by ecological need, feasibility, and funding.

Strategies

1. Continue to work in partnership with the Water Level Management Task Force to plan, facilitate, and prioritize drawdowns.
2. Inform and involve citizens through public meetings, workshops, and citizen advisory groups.
3. Seek all available funding sources to carry out needed recreational access dredging to lessen



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social and economic impacts during drawdowns (proposals in Corps of Engineers Navigation Study released in 2004 includes funding for drawdowns).

4. Explore options for funding an Access Trust Fund to ensure adequate funding for additional public access (temporary or new landings, supplemental dredging, etc.) when needed to accomplish drawdowns.

Objective 2.3: Invasive Plants.

Continue current control efforts and by 2008, complete an invasive plant inventory. By 2010, achieve a 10 percent reduction in acres affected by invasive plants such as purple loosestrife, reed canary grass, Eurasian milfoil, leafy spurge, crown vetch, Russian knapweed, knotweed, European buckthorn, garlic mustard, and Japanese bamboo. Emphasize the use of biological controls.

Rationale: Invasive plants continue to pose a major threat to native plant communities on the Refuge and beyond. Invasive plants displace native species and often have little or no food value for wildlife. The result is a decline in the carrying capacity of the Refuge for native fish, wildlife, and plants, and a resulting decline in the quality of wildlife-dependent recreation. This objective addresses invasive plants by continuing current efforts while determining and mapping baseline information so that effective and efficient long-term control can take place. Biological control includes release of insects which prey directly on purple loosestrife or leafy spurge plants or disrupt part of their life cycle, and is a more long-term and cost efficient solution compared to herbicide spraying. This objective is tempered by the

realization that biological control methods are not yet readily available for a large number of invasive plant species.

Strategies

1. Hire seasonal biological technicians to conduct an inventory and prepare baseline maps of invasive plant infestations.
2. Write an invasive plant control and management plan (integrated pest management plan) that identifies priority areas and methods of control.
3. Seek seasonal staff and funding to accelerate current control and applied research efforts through interagency partnerships, volunteer programs, and public education.
4. Continue to work with the Department of Agriculture, other agencies, the states, and other refuge field stations in securing insects and beetles for release in high-infestation areas.
5. Continue coordination with the Corps of Engineers on efforts to control invasive forest plants through their operations and maintenance program and other potential authorities.
6. Take advantage of periodic invasive grant, cost-sharing, or special funding opportunities offered through the Service or other agencies and foundations.
7. Conduct public information effort including media, brochures, signage, and programs to increase awareness of the invasives threat and what visitors can do to minimize the introduction or spread of invasives.

Objective 2.4: Invasive Animals.

Increase efforts to control invasive animals through active partnerships with the states and other Service programs and federal agencies, and increase public awareness and prevention.

Rationale: Invasive animals such as zebra mussels and Asian carp species pose a current and looming threat to native fish and mussel species and have the potential to disrupt the aquatic ecosystem. They can also have a direct link to the quality of fishing by displacing various game fish, or destroying important habitat for fish and wetland-dependent birds which people observe or hunt. This objective is not measurable, reflecting the reality that invasive animal species do not lend themselves to direct control in a large river system and that addressing invasive

animals is dependent on political and management actions beyond the boundary of the Refuge. However, the objective does emphasize the importance of addressing invasive species and represents more active Refuge involvement.

Strategies

1. Use the visibility and public awareness of the Refuge as a platform or “bully pulpit” to inform the public, decision-makers, and elected representatives of the seriousness of the invasive animal threat to the ecology and economy of the Upper Mississippi River System.
2. Continue to seek ways to help the states implement their Aquatic Nuisance Species plans and consider and incorporate these plans in Refuge invasives efforts.
3. Whenever possible, assist with implementation of the Asian Carp Working Group’s Management and Control Plan for Asian Carps in the United States (prevent, contain and control, reduce, minimize impacts, increase public information, research, and effective national coordination).
4. Continue monitoring, sampling, research, and exploration of management options to address spring and fall waterbird mortality in Pools 7 and 8 resulting from ingestion of trematodes associated with the invasive faucet snail (*Bithynia tentaculata*).
5. Implement other objectives and strategies in the CCP which have an influence on invasive species work. For example, better habitat conditions promote healthy native fish populations that can compete with invasive species, while adding a fishery biologist to the staff would increase and improve coordination with other programs and agencies dealing with invasives.
6. Continue to work with other agencies in developing effective regulations, barriers, biological controls, or other means to reduce introduction and spread of invasives.
7. Explore new and creative ways to expand the harvest of invasive fish by commercial fishing, such as a bonus payment to enhance market price.
8. Conduct public information effort including media, brochures, signage, and programs to increase awareness of the invasives threat and what visitors can do to minimize the introduction or spread of invasives.

Goal 3: Wildlife and Habitat.

Our habitat management will support diverse and abundant native fish, wildlife, and plants.

Objective 3.1: Environmental Pool Plans.

By 2021, in cooperation with various agencies and states, implement at least 30 percent of the Refuge-priority Environmental Pool Plan actions and strategies in Pools 4-14 as summarized in Table 25 on page 147 (see Appendix N of the Final EIS/CCP for examples of Environmental Pool Plan maps).

Rationale: Environmental Pool Plans represent a desired future habitat condition developed by an interagency team of resource professionals, including Refuge staff. The Pool Plans represent what is necessary to reverse the negative trends in habitat quality and quantity on the Upper Mississippi River. Improved habitat is the key to healthy fish and wildlife populations, which in turn impact the quality of wildlife-dependent recreation. Thus, this objective represents an important part of the wildlife and integrated public use focus alternative. The Refuge represents a sizeable subset of the habitat vision presented in each Pool Plan. The Refuge also has different resource mandates and responsibilities than the Corps of Engineers and the states. Thus, the Refuge prioritized various actions to meet these needs as represented in Table 25 on page 147. The objective of 30 percent represents a reasonable rate of implementing priority actions given current funding levels (mainly through the Environmental Management Program, Corps of Engineers) for habitat conservation work, and the 15-year horizon of this CCP versus the 50-year horizon of the Pool Plans. Some of the actions and strategies in the table overlap with other objectives in this plan (e.g. forest management, land acquisition, watershed work, and water level drawdowns).

Strategies

1. Continue to coordinate with the River Resources Forum's Fish and Wildlife Workgroup, and the River Resources Coordinating Team's Fish and Wildlife Interagency Committee, to implement pool plan priorities.
2. Continue to work for full and expanded funding of the Environmental Management Program through public and Congressional information and outreach.

3. Continue to seek opportunities through the Corps of Engineers' Channel Maintenance Program to implement certain aspects of pool plans.
4. Take advantage of any new funding sources that emerge, such as the Corps of Engineers' Navigation and Environmental Sustainability Program which could be authorized and funded by Congress.
5. Complete a required Refuge Habitat Management Plan which integrates species status and trends with the Environmental Pool Plans (see related Objective 3.3).

Objective 3.2: Guiding Principles for Habitat Management Programs.

Adopt and use the following guiding principles when designing or providing input to design and construction of habitat enhancement projects:

- # Management practices will restore or mimic natural ecosystem processes or functions to promote a diversity of habitat and minimize operations and maintenance costs. Mimicking natural processes in an altered environment often includes active management and/or structures such as drawdowns, moist soil management, prescribed fire, grazing, water control structures, dikes, etc.
- # Maintenance and operation costs of projects will be weighed carefully since annual budgets for these items are not guaranteed.



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- # Terrestrial habitat on constructed islands and other areas needs to best fit the natural processes occurring on the river, which in many cases will allow for natural succession to occur.
- # If project features in Refuge Waterfowl Hunting Closed Areas serve to attract public use during the waterfowl season, spatial and temporal restrictions of uses may be required to reduce human disturbance of wildlife.
- # The esthetics of projects, in the context of visual impacts to the landscape, should be considered in project design in support of Refuge Goal 1, Landscape.

Rationale: Guiding principles for habitat restoration or enhancement projects would provide consistency between the four Districts of the Refuge and help communicate to cooperating agencies and the public standards from which we approach the design of projects. The principles will also help ensure compliance with Service policy on biological integrity and recognize the need to consider future operations and maintenance costs before doing projects. In addition, the principles help ensure that projects complement, rather than compete with, other goals and objectives in this plan.

Strategies

1. Refuge staff will use these guidelines when proposing and designing habitat enhancement projects funded by the Service. They will also be used during coordination with the Corps of Engineers and the states in cooperative programs such as the Environmental Management Program or any new program authority that may arise from the Corps of Engineers' Navigation Study. In cooperative projects done on the Refuge, other agency guidelines will also be considered.

Objective 3.3: Monitor and Investigate Fish and Wildlife Populations and Their Habitats.

By January 2008, amend the 1993 Wildlife Inventory Plan to include more species groups such as fish, reptiles, mussels, and plants, and increase the amount of applied research being done on the Refuge.

Rationale: Monitoring is essential to understanding the status and trends of selected species groups and habitats. This in turn provides some indication of overall biological integrity, diversity, and environmental health of the Refuge, and is critical in plan-

ning habitat management and public use programs. This objective represents a more aggressive biological program on the Refuge and will help meet directives in the Refuge Improvement Act requiring monitoring the status of fish, wildlife, and plant species. Better biological information is also critical to making sound and integrated resource and public use management decisions. The Refuge would continue to support and use monitoring done by the states, U.S. Geological Survey, the Corps of Engineers, and others to help fill the gaps in status and trends information for fish, mussels, reptiles, forests and other land cover, and environmental factors such as water chemistry and sedimentation.

Strategies

1. Engage other experts and partners to develop and implement the Wildlife Inventory Plan.
2. In developing the Wildlife Inventory Plan, consult each state's Comprehensive Wildlife Conservation Plan for areas of mutual need and opportunity in regard to monitoring and research.
3. Establish a Refuge Research Team that designs short-term and long-term research projects to address management questions and concerns about wildlife populations and their habitat.
4. Continue to work with the states, U.S. Geological Survey, and Corps of Engineers in the sharing of data on other species and habitats.
5. Establish a schedule of formal coordination meetings with the U.S. Geological Survey to share biological monitoring methods and data.
6. Ensure that each District has a biologist on staff and that Headquarters has a GIS biologist.
7. Seek more cooperation with colleges and universities to foster more graduate research projects.
8. Continue to use volunteers for certain monitoring efforts such as point counts for breeding and migrating birds.

Objective 3.4: Threatened and Endangered Species Management.

By the end of 2008, begin monitoring of all federally listed threatened or endangered and candidate species on the Refuge, and by 2010, have in place management plans for each species to



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help ensure their recovery. Cooperate with the states in the monitoring and management of state-listed species.

Rationale: As noted in an earlier section of this chapter, it is Service policy to give priority consideration to the protection, enhancement, and recovery of these species on national wildlife refuges. This objective represents a more aggressive approach to achieving this policy, and also reflects the high public interest in threatened and endangered species. Currently, the only species actively monitored by the Refuge are Bald Eagles, and efforts would be expanded to include the Higgins eye pearl mussel, eastern massasauga rattlesnake, and sheepnose mussel. Strategies below also recognize the importance of considering state-listed species in monitoring and management activities.

Strategies

1. Consider the needs of federal and state-listed threatened, endangered and candidate species, as applicable, in all habitat and public use management decisions.
2. Continue to consult with the Service's Ecological Services Offices on all actions which may affect listed species, and coordinate with the states on actions that may affect state-listed species.
3. In the Wildlife Inventory Plan, address a monitoring plan for all federally listed or candidate species, and consider state-listed species and "Species of Greatest Conservation Need" in state Comprehensive Wildlife Conservation Plans, to help detect serious problems early and to preclude listing.
4. Continue monitoring Bald Eagle nesting populations and success, and conduct periodic peak spring Bald Eagle migration counts.

5. In the Habitat Management Plan, identify steps needed to ensure populations of listed or candidate species are sustained in support of delisting or to preclude listing in the future.
6. Give priority to acquisition of lands within the approved boundary that contain listed or candidate species.
7. Continue assistance to other offices and agencies with Higgins eye pearl mussel recovery efforts.
8. Increase education and outreach specifically targeting threatened and endangered species found on the Refuge.

Objective 3.5: Furbearer Trapping.

Update the Refuge trapping plan by June 2007, continuing the existing trapping program until the update is completed and ready for implementation.

Rationale: Furbearer trapping has a long history on the Refuge and can be an important management tool in reducing furbearer disease and habitat impacts, and in safeguarding certain Refuge infrastructure such as dikes, islands, and water control structures. Trapping is also important from a recreational and cultural standpoint, providing hundreds of trappers thousands of hours of wildlife-related and outdoor-dependent enjoyment. Trappers also provide valuable information on habitat conditions and wildlife population and use trends due to their frequent, first-hand experiences and annual reporting. The current trapping plan is dated by time (1988), new furbearer ecology and population information, and by new policies governing compatibility of uses and commercial uses on national wildlife refuges.

Strategies

1. Seek input from state furbearer biologists, current Refuge furbearer trappers, and trapping organizations to assess effectiveness and/or needed changes in trapping program administration and management.
2. The Refuge wildlife biologists, in consultation with Refuge District managers, state furbearer biologists, and the Refuge Manager, will develop a draft trapping plan.
3. Afford the public an opportunity for review and comment on a draft plan and accompanying environmental assessment and compatibility determination.

4. Following public review and revision, submit a final plan to the Regional Director of the Service, Twin Cities, Minnesota, for approval (required).
5. Conduct appropriate information and education effort on any changes reflected in the plan.

Objective 3.6: Fishery and Mussel Management.

By the end of 2008, complete a Fishery and Mussel Management Plan for the Refuge which incorporates current monitoring and management by the states, the Corps of Engineers, and other Service offices and agencies.

Rationale: One of the purposes of the Refuge is to provide a “refuge and breeding place for fish and other aquatic animal life.” Fish and mussels also have high intrinsic, recreational, and commercial values. For decades, the Refuge has not taken an active role in fishery or mussel management, deferring to the states or others on this management responsibility. Although the states will still play the lead role in fisheries and mussel management, the Refuge should have in place a plan which communicates to the states and the public the Refuge and Service perspective on fishery and mussel management issues and needs, and to help set common goals, objectives, and means of collecting and sharing information. The plan would also help guide conservation efforts for rare or declining interjurisdictional species such as paddlefish and sturgeon and federally listed and candidate aquatic species, and address the Refuge’s role in commercial harvest of species and control of aquatic invasive species. Healthy fishery and mussel populations also benefit the public’s use and enjoyment of these resources.

Strategies

1. Add a fishery biologist to the Headquarters staff to coordinate fishery and mussel management on the Refuge.
2. Take an active role in Upper Mississippi River Conservation Committee fisheries technical section and mussel ad hoc committee.
3. Prepare plan in collaboration with the states, Service fishery offices, the Genoa National Fish Hatchery, and aquatic biologists of the U.S. Geological Survey.

Objective 3.7: Commercial Fishing and Clamming.

By the end of 2008, complete a Fishery and Mussel Management Plan, and by January 2010, have a mechanism or agreements in place to ensure that Refuge System permit requirements are incorporated in state-issued permits.

Rationale: The Refuge has provided little to no oversight of the commercial harvest of fish or mussels in the past since most fish and mussel management falls under the primary jurisdiction of the states. However, federal regulations governing the Refuge System state that “fishery resources of commercial importance on wildlife refuge areas may be taken under permit in accordance with federal and state law and regulations” (50 Code of Federal Regulations, Part 31.13). Other regulations govern all commercial uses on refuges. Besides this compliance issue, the Refuge can play an important advisory and coordination role with the four states which administer commercial fish and mussel harvest on the Refuge. A Fishery and Mussel Management Plan is needed before any Refuge-specific stipulations for consideration and use in state permits could be crafted.

Strategies

1. In addition to the strategies in Objective 3.6, establish, with the states through the Upper Mississippi River Conservation Committee, a method of sharing permittee and catch information for the Refuge.
2. Devise a Refuge permitting process that dovetails with state permits so that commercial users need only one permit or license versus two.
3. Enter into cooperative agreements as needed to implement this one-stop-shopping permit process.
4. Ensure that commercial harvest of fish and mussels meets objectives in Refuge plans, and explore ways that commercial harvest can help address invasive species issues (Objective 2.4).
5. Ensure consistency with state regulations whenever possible. For instance, the Refuge would not issue permits for mussel or fish harvest in areas not opened by the states.

Objective 3.8: Turtle Management.

By spring 2008, initiate a 3- to 5-year turtle ecology study on representative habitats of the entire Refuge. Continue to cooperate with the

states, U.S. Geological Survey, and the Corps of Engineers in monitoring turtle populations on certain Refuge areas.

Rationale: Recent surveys in the Weaver Bottoms area of Pool 5 indicate that this area of the Refuge is an important, and perhaps critical, area for eight species of turtles, some of which are listed by the states as threatened or endangered. Surveys on other Pools of the Refuge show that 11 species are present. There are numerous potential negative and positive impacts to turtles from public use and navigation channel maintenance activities on the Refuge. However, more rigorous monitoring and research is needed over a broad area to understand turtle populations and ecology. This information would then guide a coordinated approach to their conservation, and guide management decisions concerning public uses in or on important turtle habitats.

Strategies

1. In cooperation with the U.S. Geological Survey, seek special funding and grants to fund the turtle ecology study.
2. Continue to coordinate with the Corps of Engineers and the states on ways to minimize turtle nesting disturbance on dredge material placement sites located on the Refuge.
3. Through the Upper Mississippi River Conservation Committee, devise a method of sharing more detailed commercial turtle harvest information for the Refuge.
4. Upon completion of the turtle ecology study, complete a turtle management strategy and incorporate recommendations in habitat, commercial use, and public use management activities.



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5. Conduct public information effort including media, brochures, signage, and programs to increase awareness and appreciation of turtles and communicate what visitors can do to minimize impacts on beach areas used for nesting.

Objective 3.9: Forest Management.

Complete by the end of 2008, in cooperation with the Corps of Engineers, a forest inventory of the Refuge, and by 2010, complete a Forest Management Plan for the Refuge.

Rationale: A baseline forest inventory of the approximately 51,000 acres of floodplain forest on the Refuge is the first step in addressing concerns for the long-term health of this important resource. The Corps of Engineers has been actively working on a forest inventory for several years on Corps-acquired lands, and it makes fiscal and efficiency sense to partner with the Corps of Engineers on Service-acquired lands on this objective. A Forest Management Plan is needed to integrate forest and wildlife objectives, and to identify management prescriptions such as harvest, planting, fire, and invasives control. Collaboration with the Corps of Engineers is essential to meet the forest habitat needs of wildlife since the Corps of Engineers retained forest management authority on Corps of Engineers-acquired lands that are part of the Refuge. Healthy forests also benefit the diversity and quality of public uses on the Refuge.

Strategies

1. Support a balanced forest management approach that provides adequate habitat for cavity nesting species, and ensures retention of a closed canopy for forest birds of management concern such as Red-shouldered Hawks and Cerulean Warblers.
2. As Refuge funding allows, continue to fund seasonal technicians to help with the Corps of Engineers' inventory project on Service-acquired lands. Seek ways to leverage funds through partners or grants for long-term forestry technicians.
3. Continue to work with the Corps of Engineers and other partners on forest rejuvenation and research projects.
4. Continue small scale reforestation, especially mast-producing hardwoods, on suitable Refuge lands.

5. Add a Refuge Forester to the Headquarters staff to oversee Forest Management Plan preparation and implementation, and to coordinate with the Corps of Engineers and the states on forest management issues and opportunities.

Objective 3.10: Grassland Management.

Maintain 5,700 acres of grassland habitat on the Refuge through the use of various management tools including prescribed fire, haying, grazing, and control of invasive plants. Address grassland conservation and enhancement in a step-down Habitat Management Plan.

Rationale: Many species of wildlife, particularly birds, are dependent on grassland habitat. In addition, some of these grasslands are remnant tallgrass native prairie, a diverse and rare ecosystem throughout the Midwest and home to rare or declining plant and animal species. Some grasslands within or near the Refuge are a unique and declining type of prairie, called sand or xeric prairie, which developed on porous and dry sand terraces created adjacent to the Mississippi River thousands of years ago. Active management is needed to curb loss of grasslands to forest succession or invasive species, and to maintain species diversity and health. In some areas near the river, there are opportunities to restore sand prairie. Healthy grasslands benefit a variety of public uses including wildlife observation, plant study, photography, and hunting.

Strategies

1. When completing the Habitat Management Plan, look at feasibility of increasing grassland areas on the Refuge due to its importance to grassland nesting birds and other wildlife.
2. Continue efforts with local units of government, other agencies, and private conservation groups to restore sand prairie on the Brice Prairie area (La Crosse County).
3. Implement the Refuge's Fire Management Plan.
4. Use haying, rotational grazing, and control of invasive plants as appropriate to maintain grasslands. Restore aspects of native prairie where feasible using a combination of rest, fire, farming, and reseeding as appropriate to the site.
5. Increase monitoring to measure effectiveness of treatments.

Goal 4: Wildlife-Dependent Recreation.

We will manage programs and facilities to ensure abundant and sustainable hunting, fishing, wildlife observation, wildlife photography, interpretation, and environmental education opportunities for a broad cross-section of the public.

Objective 4.1: General Hunting.

Maintain a minimum of 187,102 acres (78 percent)³ of land and water of the Refuge open to all hunting in accordance with respective state seasons, and add four new administrative No Hunting Zones totaling 505 acres. See related Objective 4.2 on Waterfowl Closed Areas. (See Table 2 on page 187 of Appendix C and maps in Appendix E.)

Rationale: Maintaining a large percentage of the Refuge open to hunting is in keeping with guidance in the Refuge Improvement Act to facilitate wildlife-dependent use when compatible. This objective also represents an integrated wildlife and public use emphasis by more strategic placement of Waterfowl Closed Areas in the related Objective 4.2, to both protect migrating waterfowl and offer a better distribution of waterfowl hunting opportunities. These Closed Areas reopen to some hunting after the duck season, adding to the open acreage above. The four new No Hunting Zones are for safety reasons or to minimize conflict between user groups. One is at Buffalo River in Pool 4 (215 acres) to address public safety concerns along Highway 35, another is at Sturgeon Slough, Pool 10 (66 acres), which contains a fairly new hiking trail off a major highway, another is at Crooked Slough proper, Pool 13 (192 acres) to avoid conflicts and address safety concerns in a relatively narrow corridor popular with anglers, and the fourth is around the Goetz Island Trail, Pool 11 (32

3. This acreage and percent is designed as a benchmark to denote the importance of hunting on the Refuge due to longstanding tradition and in compliance with the intent of the Refuge Improvement Act and Service policy. Although technically correct, these numbers must be tempered by existing habitat conditions and varying state hunting laws which can make some areas being open a moot point. For example, open water areas may be "open" to hunting, but since some states preclude open water hunting of waterfowl, many areas may not provide opportunity. These opportunities are also subject to fluctuation due to increases or decreases in emergent vegetation which often defines "open water;" or, construction of islands as part of habitat projects which may "open" opportunities to hunt an area. However, the overall acreage helps express the long-term intent of the Refuge to ensure abundant hunting opportunities.

acres) which connects to a trail in the City of Guttenberg, already a no hunting area by city ordinance.

Strategies

1. Continue yearly review of Refuge Hunting Regulations to ensure clarity and to address any emerging issues or concerns, and give the public an opportunity to review and comment on any changes.
2. To minimize potential conflicts between user groups, no hunting should occur on the Refuge from March 16 to August 31 of each year, except for spring Wild Turkey hunting and, on the Illinois portion of Refuge, squirrel hunting. The Refuge will address this change in future updates to the Refuge Hunting Plan.
3. Work cooperatively with the Town of Shelby, La Crosse County, Wisconsin DNR, and the Corps of Engineers to facilitate deer hunting on Goose Island, Pool 8, to address a high deer population and related safety, disease, and habitat degradation concerns.
4. Continue to publish the Refuge Hunting Regulations brochure to inform the public of hunting opportunities and Refuge-specific regulations.
5. Continue to improve the hunting experience by ongoing improvements to habitat and enforcement of regulations.
6. Review the 1989 Refuge Hunting Plan and modify as needed by January 2007 to comply with new regulations and policies.
7. Clearly sign areas closed to hunting and ensure public notification through news releases and other means well before the hunting seasons. Do the same for hiking trails that remain open to hunting.

Objective 4.2: Waterfowl Hunting Closed Areas.

In fall 2007 (fall 2009 for Pool 4 changes), implement the following changes to the current Waterfowl Hunting Closed Area system on the Refuge:

Add eight new Closed Areas/Sanctuaries and delete or modify some of the current 15, for a total of 23 units totaling 43,652 acres, or 995 acres less than current area (see Table 3 on page 188 in Appendix C and maps in Appendix E.

The following areas would be closed to all entry and use from October 1 to the end of the respective state regular duck season (sanctuary status, 5,050 acres total):

- a) Pool Slough Sanctuary (McGregor District, Pool 9, Iowa/Minnesota, 1,112 acres)
- b) Guttenberg Ponds portion of the 12 Mile Slough Closed Area (McGregor District, Pool 11, Iowa, 252 acres)
- c) Spring Lake Sanctuary (Savanna District, Pool 13, Illinois, existing sanctuary, 3,686 acres)

Use regulations or guidelines for Closed Areas would be as follows: The public will be asked to practice Voluntary Avoidance (limiting entry) on all closed areas October 15 to the end of the respective state duck hunting season. In addition, there will be a “no motor” restriction on small closed areas October 15 to the end of the regular state duck hunting season. Large closed areas are greater than 1,000 acres and small closed areas are ~1,000 acres or less. “No motors” means the use of motors on watercraft is not allowed, although possession of motors is allowed. Exceptions are:

- a) The existing Lake Onalaska Closed Area. Pool 7, Wisconsin, and associated Voluntary Waterfowl Avoidance Area would not be affected, although boundary adjustments would be made to the Closed Area as shown on the map for Pool 7.
- b) The existing Bertom/McCartney Closed Area, Pool 11, Wisconsin, retains current entry and use regulations (no change).

Implement the following policy for more restrictive use regulations: The Refuge will monitor human disturbance in closed areas, and if disturbance exceeds a threshold, the Refuge will, in coordination with other agencies, move to implement more restrictive regulations such as no motors, no fishing or no entry on an individual closed area basis. Human disturbance monitoring and research on Pools 7 and 8 suggests a reasonable threshold of one major disturbance per day based on a season-long average. A major disturbance is defined as a human intrusion which displaces 1,000 waterfowl or 50 percent of the waterfowl present, whichever is less. The disturbance threshold would not include

commercial fishing (handled through permitting process) or government entities engaged in monitoring, research, or law enforcement.

- # Implement the following policy for approving fish habitat improvements in closed areas through EMP or other programs: Project proposals will be evaluated on a case-by-case basis considering factors which influence human intrusion and waterfowl disturbance such as size of area, boundary configurations, visual barriers, species and numbers of waterfowl, public access points, public use patterns, and proximity to population centers and other recreation facilities. Evaluations will be conducted in collaboration with the states and Corps of Engineers.

Rationale: This objective represents a balanced approach between the needs of waterfowl and the public as reflected in the following overall Closed Area system goals:

- # Provide migrating waterfowl a more balanced and effective network of feeding and resting areas.
- # Minimize disturbance to feeding and resting waterfowl in closed areas.
- # Provide waterfowl hunters with more equitable hunting opportunities over the length of the Refuge.
- # Reduce hunter competition and waterfowl crippling loss along some closed area boundaries.
- # Stabilize boundaries, to the extent practicable, where island and/or shoreline loss or gain creates a fluctuating boundary.

This objective also helps address the issues surrounding Closed Areas as discussed in Chapter 1. The new Closed Areas were chosen to fill gaps between existing Closed Areas, to meet the needs of both dabbling and diving ducks which have different spatial and foraging needs, and to provide areas with the best food potential. An analysis of the potential carrying capacity of existing and proposed alternative Closed Areas was completed in 2004 and is available at Refuge headquarters or on the Refuge planning web site (<http://midwest.fws.gov/planning/uppermiss>).



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The Closed Area locations and configurations in this objective also took into account the need for public access and travel routes, commercial navigation, adjacent business and community needs and practicalities, likelihood of near-term habitat improvements in existing Closed Areas, and the desire to continue to provide viable waterfowl hunting opportunities.

Relatively large and small closed areas were treated differently since they generally cater to different waterfowl species groups (divers versus dabblers), differ in carrying capacity of birds, and reflect differences in effects of human entry due to size of area and the natural visual or noise barriers present. Human entry in a small closed area will often disturb nearly all the birds present, forcing them to other parts of the Refuge or beyond. Human entry in large closed areas may be variable, from little to no disturbance based on where birds are located, to moving some birds to other portions of the closed area, to moving virtually all birds present from the closed area. The effective date of October 15 for entry and use regulations reflects public concern about the loss of fall fishing opportunities and survey data which shows that the major influx of waterfowl occurs after October 15 each year.

The new policy on setting a threshold of disturbance to guide future entry and use regulation decisions was based on state and public comments. However, given the food and rest needs of waterfowl on migration, it is recognized that no human disturbance is optimum. Thus, the disturbance rate of one major disturbance per day is not intended to represent a purely biologically-accepted threshold of disturbance, but a balance between the needs of waterfowl and the realities of a large open river system, various authorities, different user groups, abundant

access points, and the level of surrounding development.

No change was made in entry regulations for the Lake Onalaska closed area to provide a benchmark for measuring long-term voluntary avoidance effectiveness and compliance as presented in the existing Lake Onalaska Voluntary Avoidance Area. The exception also recognizes the unique location of the Lake Onalaska closed area amidst heavy shoreline development and the resulting heavy watercraft use needs and patterns by adjacent property owners and nearby population centers. The Bertom/McCartney exception recognizes use patterns resulting from the existing boat landing in the heart of the area and existing fall fishing levels fostered by an earlier Environmental Management Program habitat project.

Changes to existing boundaries or new closed areas in Pool 4 (Nelson-Trevino, Big Lake, Peterson Lake, and Rieck's Lake/Buffalo River) will not take effect until the 2009 waterfowl hunting season. During public meetings and workshops, hunters raised questions about the level of waterfowl use in the existing Nelson-Trevino Closed Area. Since this area is heavily wooded, it is not feasible to get an accurate index of waterfowl use during fall aerial surveys. Thus, the Refuge will implement on-the-ground monitoring for three years to ascertain bird use numbers and patterns in the Nelson-Trevino and surrounding areas. Based on the results of this monitoring, the Refuge will have a better picture of waterfowl use dynamics in the Pool 4 area. The changes presented in this alternative will proceed in 2009 unless data dictates another course. The public will be kept informed of the monitoring and any resulting changes in management direction.

The new paired closed areas in Pool 10 (Wisconsin River Delta and Sturgeon Slough/McGregor Lake) has a standard, small closed area at Sturgeon Slough which protects bird use in the best habitat. The McGregor Lake portion was dropped from any closed area designation due to marginal waterfowl habitat and its importance to sport fishing. The Wisconsin River Delta was renamed a special hunt area to better reflect the nature of the less-restrictive regulations being employed (closed to hunting and trapping, voluntary avoidance, November 1 to the end of the duck season only). (See Table 5 in Appendix C, and maps in Appendix E.)

Finally, the policy on evaluating proposed fish habitat improvements in closed areas recognizes the need to address unintended conflicts that may arise

when trying to meet different objectives for fish and waterfowl in the same area. Fall fishing has been shown to be a major disturbance to waterfowl in some closed areas. Certain fish habitat improvements which attract and hold fish can increase angler use and waterfowl disturbance, and on small closed areas especially, have the potential to negate any waterfowl migration benefits. Careful consideration of these dynamics is needed when planning habitat projects.

Strategies

1. Continue to improve habitat in all Closed Areas by ongoing programs such as pool-wide drawdowns, Environmental Management Program projects, and other agency initiatives and regulations.
2. Continue to monitor waterfowl use of Closed Areas through weekly aerial surveys in the fall and adjust closed areas as needed in a more adaptive manner and with full agency and public involvement.
3. Monitor the frequency and effect of disturbance by the public in line with the disturbance threshold policy.
4. Meet with Wisconsin DNR and other states to develop criteria to be used in evaluating the compatibility of fish habitat improvements in Waterfowl Hunting Closed Areas located in Wisconsin.
5. Conduct a comprehensive public information campaign to inform waterfowl hunters and the general public of impending changes. Use all methods available including personal contact, presentations at organizations, special meetings, leaflets, maps, signing, news releases, websites, and media interviews.
6. Develop new signs for the differing regulations/guidelines for large and small closed areas and post boundaries of new or modified closed areas well in advance of the waterfowl hunting season to help with public awareness.
7. Increase law enforcement presence to help ensure understanding and compliance with changes, relying on verbal and/or written warnings, at an officer's discretion, the first year of implementation in 2007.

Objective 4.3: Waterfowl Hunting Regulation Changes.

In fall 2007, implement the following Refuge-specific waterfowl hunting regulation change: Open-water waterfowl hunting is prohibited in

Pool 11, approximate river miles 586-592, Grant County, Wisconsin (see map, Appendix E) in accordance with general Wisconsin open-water hunting regulations/definitions. No change to other Refuge waterfowl hunting regulations, except for permanent blinds and decoys in the Savanna District, Objective 4.5 (See Appendix I of the final EIS/CCP for current Refuge regulations). A summary of Wisconsin's open water regulation is:

No person may hunt waterfowl in open water from, or with the aid of, any blind including any boat, canoe, raft, contrivance, or similar device. Open water is defined as any water beyond a natural growth of vegetation rooted to the bottom and extending above the water surface of such height as to offer whole or partial concealment to the hunter. Dead stumps and dead trees in the water do not constitute a natural growth of vegetation. Hunting is permitted in any open water area provided the hunter is standing on the bottom without the aid of a blind. Blinds include, but are not limited to, any boat, canoe, raft, or similar device that provides any concealment for the hunter.

Rationale: The prohibition of open-water hunting is to limit disturbance in an area of Pool 11 that has become an important feeding and loafing site for thousands of Canvasback and Lesser Scaup ducks, two species of management concern due to relatively small or declining populations. In Pool 11, Grant County, open water hunting is allowed through a special exemption to the Wisconsin regulations. In the 1980s, the area was an important staging and feeding area for diving ducks, primarily Lesser Scaup, which fed on abundant fingernail clams. When the fingernail clam population collapsed, waterfowl use virtually ceased. In recent years, wild celery has become partially re-established and the area is attracting increased numbers of Canvasback and other diving ducks. This area provides the only major staging and feeding area for divers between Pool 9 and Pool 13, a distance of 125 river miles. This objective represents a scaling-back of proposals in earlier alternatives based on public input, and to ensure the action targets the current area of need versus a broad, preemptive approach. However, an additional strategy below highlights the Refuge's continued concern with periodic suggestions by individuals/groups to liberalize open-water hunting regulations.

The proposed shotshell possession limits and hunting party spacing requirement were dropped based on input from a majority of waterfowl hunters providing comment, issues with enforcement and compliance, and desire of Illinois waterfowlers to retain the 200-yard spacing requirement in Pools 12-14. In lieu of specific regulation, the strategies below have been modified to reflect the continuing need for information and education to help reduce hunter crowding, skybusting (shooting at birds out of range) and resulting crippling loss, conflicts between parties, and litter in the form of spent shells.

Strategies

1. Conduct a comprehensive public information campaign to inform waterfowl hunters and the general public of impending regulation change. Use all methods available including personal contact, presentations at organizations, special meetings, leaflets, signing, news releases, websites, and media interviews.
2. In cooperation with waterfowl hunters and conservation organizations, develop a hunter information and education campaign starting in fall 2007 to help address the issues of crowding, conflicts, skybusting (shooting at birds out-of-range) and bird retrieval, and spent shell litter to maintain the quality and important traditions of waterfowl hunting on the Refuge.
3. Maintain or improve habitat in Pool 11 through ongoing programs such as pool draw-downs, habitat enhancement projects, and other agency initiatives and regulations.
4. Continue to monitor waterfowl use of Pool 11 through weekly aerial surveys in the fall.
5. Continue to work with the states to help ensure that state waterfowl regulations concerning open water hunting continue to safeguard important diver duck staging areas in Pool 9 and elsewhere, and add additional Refuge-specific open-water hunting regulations only if warranted.

Objective 4.4: Firing Line – Pool 7, Lake Onalaska.

By October 1, 2006, in cooperation with local waterfowlers and state managers and conservation officers, complete a step-down plan for the Gibbs Lake area of Pool 7 (see map, Appendix E). The plan should strive to address the following goals:

- # Reduce competition and conflict in securing preferred hunting sites.
- # Reduce pre-emptive use of choice hunting sites.
- # Reduce crowding.
- # Reduce skybusting (shooting at birds out-of-range) and resulting crippling or loss of downed birds.
- # Improve the quality of the waterfowling experience.
- # Be fair, simple, and efficient to administer and manage.

Rationale: A purpose of the Refuge's Closed Area System is to disperse waterfowl hunting opportunities since hunters tend to congregate near concentrations of waterfowl. However, some sections of closed area boundaries, particularly those that bisect emergent marsh at the upriver end of the Lake Onalaska Closed Area (Gibb's Lake), can attract large concentrations of hunters in firing lines as they wait for waterfowl to leave closed areas. Pass shooting is the technique most often used, particularly in the Barrel Blinds area of Gibb's Lake. Unfortunately, "skybusting," or shooting at birds out of range, is common and often results in increased crippling loss. For example, during the 1991-93 seasons, officers observed that 63 of 141 hunting parties (44.7 percent) along firing lines in Pool 7 skybusted at least once during the time they were observed. Skybusting was defined as shooting at waterfowl at distances of 50 yards or more. The number of shots required to retrieve one bird was 11. During the 1992 hunting season, these same observers working Pool 7 firing lines and other



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areas found that hunters who did not skybust had a crippling loss rate of about 27 percent for the ducks or coots they downed. The crippling loss rate for ducks and coots downed through skybusting increased to nearly 57 percent.

Hunter behavior can also deteriorate in crowded, competitive situations. Behavior observed or reported along the Barrel Blinds area includes people claiming preferred sites (spending the night, leaving illuminated lights in unattended sites, handing-off sites to friends or co-workers after a party's hunt is over), engaging in verbal confrontations, late arriving hunters disrupting those set-up, flaring birds before they can work decoy sets, failure to retrieve birds, and increased littering.

Guidance in the Refuge Manual helps set the standard for hunting on refuges:

"Refuge hunting programs should be planned, supervised, conducted, and evaluated to promote positive hunting values and hunter ethics such as fair chase and sportsmanship. In general, hunting on refuges should be superior to that available on other public or private lands and should provide participants with reasonable harvest opportunities, uncrowded conditions, fewer conflicts between hunters, relatively undisturbed wildlife, and limited interference from or dependence on mechanized aspects of the sport. This may require zoning the hunt unit and limiting the number of participants."⁴

The Refuge looked at several options for improving the hunting experience in the Gibbs Lake area. These options included limiting the number of hunters pool-wide, setting minimum distances between hunters, more education, limiting the number of shotshells, more intense enforcement, and modifying the closed area boundary. These options all had shortcomings in this particular area compared to a managed hunt program. However, based on concerns with a managed hunt, it was deemed appropriate to re-engage waterfowl hunters in trying to address their concerns while at the same time meeting the Refuge's goals for the Gibbs Lake area.

Strategies

1. Assemble a diverse group of waterfowl hunters familiar with the Gibbs Lake Area, and

4. This guidance was superceded late in the planning process by new policy on hunting released June 26, 2006. The new guidance is summarized in Appendix G.

Wisconsin DNR biologists/managers and conservation officers, to provide input to the Refuge for preparing a draft Gibbs Lake Waterfowl Hunting Management Plan that meets the goals above.

2. Ensure opportunity for public review and comment on the draft management plan.
3. Conduct a comprehensive public information and education effort to inform waterfowl hunters of any changes resulting from the planning effort. Use personal contact, presentations, special meetings, leaflets, signing, news releases, websites, and media interviews as applicable.

Objective 4.5: Permanent Hunting Blinds on Savanna District.

Phase-out the use of permanent hunting blinds for waterfowl hunting and the practice of leaving decoy sets overnight within the Savanna District of the Refuge. Permanent blinds and leaving decoys out one-half hour after shooting hours will no longer be allowed on the Refuge in Pool 12 after the 2006-07 season, Pool 14 after the 2007-08 season, and Pool 13 after the 2008-09 season.

Rationale: Eliminating permanent blinds would provide consistency on the Refuge since they are not allowed on the other three Districts. In addition to consistency, eliminating the blinds would address a host of issues involving debris, private exclusive use of public waters, limiting hunting opportunities, and confrontations and other incidents. These issues are discussed more fully in Chapter 1. This objective would also reduce the staff time spent on law enforcement, complaints, and clean-up that permanent blinds entail, time that could be directed toward more wildlife-related needs, and in line with the wildlife aspect of this alternative. By using a phased approach, the objective takes into consideration the long-standing tradition of permanent blind hunting and gives hunters more time to transition to alternative hunting methods and areas. The phase out schedule will give the greatest number of hunters more time to adjust, and takes into account staff workload by timing the phase out over three years. The elimination of permanent blinds also opens the Refuge to a broader cross-section of hunters, and will help reduce conflict that has arisen between hunting parties, and limits the private, exclusive use of public waters and lands.

Related to permanent blinds is the issue of leaving duck hunting decoys on Refuge waters in Pools 12-14 (Savanna District). This is an exception to Refuge-wide regulations which state that decoys may not be in place ½ hour after the close of legal shooting hours and 1 hour before the start of legal shooting hours. Hunters who leave decoys out overnight, and in some instances multiple days or the entire season, are in effect practicing private, exclusive or proprietary use of public waters by tying-up a hunting area. Like permanent blinds, this has the effect of limiting places for the general public to hunt.

Strategies

1. Conduct a public information campaign to inform hunters of the changes, and to give hunters ample time to adjust to alternative hunting methods or areas.
2. Prepare and distribute a leaflet explaining the new regulations governing temporary blinds and decoy use.
3. Begin phase in of permanent blind regulations by requiring hunters to comply with the following requirements the year before a respective pool is scheduled for permanent-blind phase-out:
 - a) Blinds must be marked with name, address, and telephone number of owner.
 - b) All blinds and blind material within 100 yards of blind site must be removed by the hunter within 30 days of the end of the waterfowl hunting season.

Objective 4.6: Potter's Marsh Managed Hunt on Savanna District, Pool 13.

Beginning with the 2006-07 season, implement a variety of administrative and regulation changes to reduce costs and provide an equitable hunting experience. Permanent blinds would be eliminated after the 2008-09 season (Pool 13 schedule), but boat-blind sites provided and managed.

Rationale: This objective reflects an integrated approach by reducing costs and staff time that can be devoted to wildlife objectives, while retaining the essence of the waterfowl hunt which provides a desired experience for hunters. The changes would reduce problems associated with permanent blinds as noted in Objective 4.5 (debris, private exclusive use, limiting hunting opportunities, and confrontations) and reduce the administrative costs associated with the drawings, permit administration, and

oversight of the current program (see the issue discussion in Chapter 1).

Strategies

1. Implement the following for the 2006 waterfowl hunting season:
 - a) The Refuge will mark with numbered stakes 49 hunting areas (same number as current); blinds must be set up within 25 feet of stake.
 - b) Blind sites must be occupied one-half hour prior to shooting time or they will be open to the public first-come, first-served.
 - c) A 400-yard closed area restriction on the west boundary of Potter's Marsh will be maintained (491 acres) to prevent encroachment from other public hunting.
2. Implement the following regulation changes for the 2009 season:
 - a) Permanent blinds will not be allowed. Only boat blinds in accordance with Refuge temporary-blind regulations.
 - b) The Refuge will continue to mark 49 hunting areas and boat blinds must be set up within 25 feet of stake.
3. Implement the following application and drawing procedure changes for the 2006 season:
 - a) Accept applications and hold drawing for blind area on same day, generally on a Saturday in July coinciding with the northwest region of Illinois Department of Natural Resources managed hunt drawing.
 - b) Applicant must be present at drawing.
 - c) Applicant must have current Firearm Owners Identification if Illinois resident, and current year license and state and federal duck stamps.
 - d) Applicants must be 16 years of age by date of drawing.
 - e) Applications accepted 10 a.m. to 2 p.m. with drawing at 2 p.m.
 - f) The successful applicant receives boat-blind site for entire season.
 - g) Application fee \$10, plus \$100 fee for successful applicants.



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4. Conduct public information campaign to inform the public of the change and to give hunters who have become accustomed to the former managed hunt a chance to adapt to alternative hunting methods or areas.

Objective 4.7: Blanding Landing Managed Hunt, Pool 12.

After the 2006-07 season, eliminate the managed waterfowl hunt at Blanding Landing, Lost Mound Unit, Savanna District (former Savanna Army Depot), including the use of permanent blinds, and open the area to waterfowl hunting on a first-come, first-secured basis.

Rationale: The Illinois Department of Natural Resources administers this hunt on behalf of the Savanna Army Depot, but with transfer of jurisdiction to the Service, hunting on this area is now the responsibility of the Refuge. Similar to the Potter's Marsh Managed Hunt above, this objective would reduce problems associated with permanent blinds as noted in Objective 4.5 (debris, private exclusive use, limiting hunting opportunities, and confrontations) and eliminate the administrative costs associated with the drawings, permit administration, and oversight of the current program. This objective reflects a wildlife emphasis since funding and staff currently devoted to this hunt could be focused on wildlife objectives throughout the Savanna District, and especially the new Lost Mound Unit which has large start-up needs. This objective also reflects a public use emphasis by opening an area to a larger number of waterfowl hunters.

Strategies

1. Conduct a public information campaign prior to implementation to inform the public of the change and give hunters accustomed to the

managed hunt a chance to adapt to alternative hunting methods or areas.

Objective 4.8: General Fishing.

Provide and enhance year-round fishing on the approximately 140,000 acres⁵ of surface water within the Refuge, and an additional 5,050 acres of waterfowl sanctuaries open spring, summer, and winter. (Note: Iowa, Wisconsin, and Illinois regulations also maintain fish “refuges” below lock and dams 11, 12, and 13, December 1 through March 15). Add five new fishing piers or docks by 2021 for a total of 20 (see Table 24 on page 146).

Rationale: This objective represents the current areas available and open to fishing. Fishing is one of the priority uses of the Refuge System and is to be facilitated when compatible with the purposes of the Refuge and the mission of the Refuge System. Enhanced fishing opportunities are also a reflection of river and Refuge health. The increase in fishing piers or docks is proposed in-line with the integrated public use emphasis of this CCP. These facilities offer fishing opportunities for persons without boats.

Strategies

1. Enhance fishing opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
2. Continue to promote fishing through Fishing Days and other outreach and educational programming.
3. Cooperate with the states in their ongoing fishery management programs.
4. Seek new funding and partnership opportunities to construct the new fishing piers.
5. Ensure yearly inspection and maintenance of all fishing piers to maintain quality and safety.

5. This acreage is designed as a benchmark to denote the importance of fishing on the Refuge due to long-standing tradition and in compliance with the intent of the Refuge Improvement Act and Service policy. Although technically correct, these numbers must be tempered by existing habitat conditions which can affect the quantity of water acres suitable for fishing in any given year. However, the overall acreage helps express the long-term intent of the Refuge to ensure abundant fishing opportunities.



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Objective 4.9: Fishing Tournaments

By January, 2008, in collaboration with the states and the Corps of Engineers through the Upper Mississippi River Conservation Committee, develop a plan for dove-tailing Refuge permitting requirements with the respective state-issued permits for all fishing tournaments occurring on the Refuge.

Rationale: Fishing tournaments continue to grow in size and number on the Mississippi River and on the Refuge. Conflicts can at times occur between tournaments and between tournament participants and the general public due to location, timing, frequency, and size of tournaments. These conflicts can be heightened by differing state and Corps of Engineers policies and permit requirements and stipulations. Care must also be taken to safeguard sensitive habitats or fish and wildlife areas within the Refuge. Since fishing tournaments are a use of the Refuge, they are subject to regulations governing uses on national wildlife refuges.

The Refuge has not provided any oversight to tournaments in the past, deferring to the individual states', and at times Corps of Engineers', regulatory and permitting processes. Although the states will retain their leadership role, the Refuge needs to meet its regulatory requirements for tournaments occurring on the Refuge. This can most efficiently be accomplished by dove-tailing any Refuge requirements in the state permit process and provide one-stop-shopping for tournament clients. Since tournaments often cross state lines regardless of the origin, the Refuge can also serve as a catalyst for an integrated and consistent approach to fishing tournament management on the river.

Strategies

1. Use the Upper Mississippi River Conservation Committee as a forum to discuss with the states and the Corps of Engineers the best strategies for dove-tailing Refuge permit requirements with their permitting procedures.
2. Develop with the states and the Corps of Engineers time, space, and capacity parameters on each Pool within the Refuge, and definitions for what constitutes a fishing tournament.
3. Seek fishing tournament organization input in planning a permit allocation and application process, and ensure opportunity for public involvement and review.
4. Foster the use of a web-based tournament management system so all partners, tournament sponsors, and the public have access to scheduling information, tournament dates, and permit procedures.

Objective 4.10: Wildlife Observation and Photography.

Maintain the following existing and new facilities to foster wildlife observation and photography opportunities: 25 observation decks and areas, 3 observation towers, 4 photography blinds, 14 hiking trails, 19 canoe trails, 6 biking trails, and 3 auto tour routes. (See Table 24 on page 146 and maps in Appendix E.)

Rationale: Wildlife observation and photography are two of the six priority public uses of the Refuge System and are to be facilitated when compatible. This objective represents a marked increase in the number of existing observation decks/areas (plus 10), observation towers (plus 3), photography blinds (plus 4), hiking trails (plus 8), canoe trails (plus 15), biking trails (plus 3), and auto tour routes (plus 2). This expansion of facilities reflects a balanced and measured increase in facilities for wildlife observation and photography, while continuing to meet fish and wildlife protection and management responsibilities.

Strategies

1. Schedule annual inspection and maintenance of the facilities.
2. Ensure adequate signing and information in brochures, websites, and maps so the public is aware of the facilities.
3. Continue to promote the wildlife observation and photography opportunities of the Refuge



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through public education, outreach, special programs, and partnerships with the states, Corps of Engineers and private conservation groups.

4. Enhance observation and photography opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
5. Seek new funding and partnership opportunities, including volunteers, for construction and maintenance of facilities.

Objective 4.11: Interpretation and Environmental Education.

By the end of 2010, increase the number of stand-alone interpretive signs to 102 (plus 43) and by 2021 build new district offices with visitor contact facilities at McGregor, Winona, La Crosse, and the Lost Mound Unit. Continue to print and distribute a Refuge General Brochure, and update websites quarterly. Continue to sponsor at least two major annual interpretive events on each Refuge District, and by January 2008 establish at least one major environmental education program at each District with visitor services staff. (See Table 24 on page 146 and maps in Appendix E.)

Rationale: Interpretation and environmental education are two of the six priority public uses of the Refuge System and are to be fostered if compatible with the Refuge purpose and Refuge System mission. Interpreting the resources and challenges of the Refuge to the general public and incorporating these topics into school curricula are important ways to influence the future well-being of the Refuge and the river. Only through understanding and

appreciation will people be moved to personal and collective action to ensure a healthy Refuge for the future. Interpretation and environmental education are also key to changing attitudes and behavior which affect the Refuge through off-Refuge land use decisions and on-Refuge conduct and use.

This objective reflects a marked increase in interpretation and environmental education capability and programs and reflects the importance of these programs in an integrated resource management alternative. It also reflects basic needs for a Refuge that is the most heavily visited in the United States, and would provide facilities necessary to inform and educate visitors and help them make the most of their Refuge visit. Since environmental education is curriculum-based and labor intensive, initial efforts will be limited to Districts with public use staff, but will increase across all Districts if and when staff are added.

Strategies

1. Hire visitor services specialists at McGregor and Winona Districts (top priority), and hire a visitor services specialist to be stationed at the National Mississippi River Museum in Dubuque, Iowa, to help present Refuge-specific programs.
2. Continue work to complete exhibits at Savanna and La Crosse offices, and seek funding to replace exhibits at McGregor District and the Lost Mound Unit of the Savanna District.
3. Participate in national interpretive events such as National Wildlife Refuge Week or Migratory Bird Day for efficiency and effectiveness.
4. Conduct a quarterly condition review of interpretive signs and complete maintenance and sign replacement as needed.
5. Cooperate with existing interpretive and environmental education programs offered by the states, Corps of Engineers, other agencies and private conservation groups, and continue to seek grants to fund events and programs.
6. Continue to place interpretive signs at public access and overlook points in cooperation with various agencies and units of government.

Objective 4.12: Commercial Fish Floats.

By the end of 2006, develop new facility, operations, and concession fee standards for the four existing commercial fish floats or fishing piers below Locks and Dams 6, 7, 8, and 9. Phase out those operations which do not meet new standards, solicit proposals for new floats, and base a decision on the adequacy and feasibility of the new proposals.

Rationale: This objective would continue to recognize the important role of fish floats in providing an alternative fishing experience for a diversity of Refuge visitors. However, new standards would address several long standing management issues such as permit non-compliance, condition and safety issues with some operations, net economic loss to the government, and noncompliance with regulations governing concessions on national wildlife refuges. Phasing out operations not in compliance would reduce Refuge administrative and staff costs, resources that could be directed back to fish- and-wildlife-related objectives. Soliciting new proposals to replace any facilities phased out could lead to quality replacements to meet need and demand while reducing staff oversight.

Strategies

1. Seek input from current fish float owners, draft new standards well in advance of implementation, and give fish float owners/operators a chance to review and comment.
2. Continue yearly coordination meeting with float owners and operators to address concerns and permit conditions.
3. Continue enforcement of permit stipulations and suspend permits of those operations not meeting the stipulations.
4. Inspect facilities for safety at least once yearly.
5. If any floats are phased out due to non-compliance with permit stipulations, ensure adequate public notice so clients can seek alternate opportunities and ensure timely solicitations of new float proposals.

Objective 4.13: Guiding Services.

In collaboration with the states and the Corps of Engineers, implement in spring 2008, a consistent process for issuing permits for persons conducting for-hire guided hunting, fishing, and wildlife observation activities on the Refuge.

Rationale: As noted in the issues section of Chapter 1, guiding businesses are on the rise and promise to become an increasingly common activity on the Refuge. Without proper oversight, this activity could lead to disturbance to sensitive areas and wildlife, and increased conflict with the general public or other guides as volume and frequency increases. In addition, guiding and other commercial uses are prohibited on a national wildlife refuge unless specifically authorized via permit. The Refuge needs to bring this use into compliance with regulations and policy. Effectively managing this use would not only safeguard fish and wildlife resources, but also benefit the general public that uses the Refuge for hunting, fishing, and wildlife observation, and thus represents an integrated approach.

Strategies

1. Use the Upper Mississippi River Conservation Committee as a forum to discuss with the states and the Corps of Engineers the best strategies for dove-tailing Refuge permit requirements with their permitting procedures.
2. Develop with the states and the Corps of Engineers capacity parameters on each Pool(s) within the Refuge for various types of guiding operations. The parameters should aim to minimize competition or conflict with the general public engaged in hunting, fishing, and wildlife observation, minimize conflicts between guides, and ensure a viable economic opportunity for existing guiding businesses.
3. Conduct a public information effort through news releases and media contacts to implement the objective.
4. Provide proactive enforcement through Refuge and other agency law enforcement officers.

Goal 5: Other Recreational Use.

We will provide opportunities for the public to use and enjoy the Refuge for traditional and appropriate non-wildlife-dependent recreation that is compatible with the purpose for which the Refuge was established and the mission of the Refuge System.

Objective 5.1: Beach Use and Maintenance.

Beginning in spring 2007, use the following general guidelines, regulations and policies to manage beach-related uses and beach maintenance. Other existing public use regulations pertaining

to beach areas (see Appendix J in the Final EIS/CCP) will remain in effect.

General Guidelines. Beach-related uses will be governed by the following over-arching guidelines:

- a) protect human health and safety
- b) minimize dangerous situations for Refuge law enforcement officers
- c) minimize impacts to wildlife and the Refuge environment.
- d) minimize conflicts with wildlife-dependent users
- e) set policies and regulations that are reasonable and feasible to administer and enforce
- f) minimize or offset current and future administrative, operating, and maintenance costs
- g) make regulations easily understood by the general public

Beach Use Policy. Remnant and active dredged material placement sites, natural sand shorelines, and all other shoreline areas within the Refuge will be open to public use and enjoyment in accordance with current and proposed (see item below) Refuge Public Use Regulations. Based on clearly articulated reasons, the Refuge Manager may close or restrict use on certain beach and other shoreline areas to address chronic public use problems or safeguard wildlife or habitat values. Unless an emergency situation, these closures or restrictions will be coordinated with the states and Corps of Engineers



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through existing interagency workgroups or through the pool-by-pool beach planning process, and the public will be given proper notice and an opportunity to comment.

New Regulations for Camping and Other Beach-related Uses. Current public use regulations as described in the Refuge Public Use Regulations brochure (see Appendix J in the Final EIS/CCP) will remain in effect, except by April 1, 2007, the following regulation changes will be implemented:

- a) Areas open to camping remain unchanged from existing policy and regulations. However, camping is defined as erecting a tent or shelter of natural or synthetic material, preparing a sleeping bag or other bedding material for use, parking of a motor vehicle or mooring or anchoring of a vessel, for the apparent purpose of overnight occupancy, or, occupying or leaving personal property, including boats or other craft, at a site anytime between the hours of 11 p.m. and 3 a.m. on any given day.
- b) Human solid waste and associated material must either be removed and properly disposed of off-refuge, or, be buried on site to a depth of 6-8 inches and at least 50 feet from waters edge. The burying of all other refuse, trash, or litter is still prohibited.
- c) The use or possession of glass food and beverage containers while afoot on lands within the Refuge is prohibited (vehicles and watercraft are exempt).
- d) No change to existing alcohol use regulations as published in the Code of Federal Regulations (50 CFR 27.81 and 32.2) for national wildlife refuges: "Entering or remaining in any national wildlife refuge when under the influence of alcohol, to a degree that may endanger oneself or other persons or property or unreasonably annoy persons in the vicinity, is prohibited" and "The use or possession of alcoholic beverages while hunting is prohibited."

Beach Management and Maintenance Policy. The Refuge will play an active role in completing beach management plans with the Corps of Engineers and the states for all pools within the Refuge, and supports active

public involvement in the process. However, the Refuge will in general only concur with maintenance of beaches on remnant dredged material islands or existing dredged material placement sites adjacent to the main channel of the river that are designated "low density recreation" in current Land Use Allocation Plans, or those not otherwise closed to use. Maintenance should be limited to the minimum reshaping, leveling, and vegetation clearing needed to ensure safe access and to facilitate the camping experience. Top dressing with sand should only be done under special circumstances. The scope and extent of all maintenance will be on a site-by-site basis as determined by the respective District Manager in consultation with the Corps of Engineers and the respective state. The Refuge will continue to request the closure of openings to dredged material placement sites after emptying on Service-acquired lands and Corps-acquired lands due to concerns with crowding, large group behavior issues, steep slopes, and shoreline drop-offs. Enforcement of non-wildlife-related recreation in empty placement sites left open on Corps of Engineers-acquired lands will not be the responsibility of the Refuge.

Rationale: Non-wildlife-dependent recreation continues to increase on the Mississippi River and the Refuge. It is estimated that 1.3 million persons per year use the Refuge for camping, recreational boating, picnicking, swimming, social gatherings, and other uses not dependent on the presence of fish and wildlife. This objective, with its new policies and regulations, would help address some of the issues related to beach use described in the issue section of Chapter 1, most notably protection of sensitive wildlife and habitat, human waste, intoxication, unlawful and unruly behavior, officer and public safety, and preemptive use of preferred camping or hunting sites. This objective represents an integrated wildlife and public use approach, using reasonable regulations and policy to ensure that beach-related uses are compatible with the fish, wildlife, and plant conservation purposes of the Refuge and to address public safety concerns. The existing alcohol use regulation was deemed adequate, with the main problem being public awareness of the full regulations versus a set blood alcohol limit. The glass container regulation was added in this alternative since it was suggested by the public at several workshops to address safety problems with broken glass on beach

areas. The beach management and maintenance policy strengthens the Refuge commitment to completing beach management plans in collaboration with other agencies and the public, while communicating the Refuge's preferred policy or framework for completing the plans. This policy also clarifies the Refuge's position on the management of dredged material placement sites and addresses concerns of agency responsibility on areas actively used by the Corps of Engineers for navigation system management.

Strategies

1. Continue to work with the states and the Corps of Engineers through existing inter-agency workgroups, to complete beach plans for each pool within the Refuge with due consideration of the policies and regulations above. Actively seek public input and comment for beach plan preparation.
2. Conduct a public information and education campaign well before implementation of regulation changes, to include news releases, general articles, fact sheets, and media interviews.
3. Institute an active "Leave No Trace" program for beach users (plan ahead and prepare, travel and camp on durable surfaces, dispose of waste properly, leave what you find, minimize campfire impacts, respect wildlife, and be considerate of others).
4. Explore a citizen "Adopt a Beach" program to help address beach maintenance and clean-up needs.
5. Develop a brochure that clearly explains new policies and regulations and answers frequently asked questions.
6. Refuge law enforcement officers will increase contacts with Refuge users once this plan is approved to explain pending regulation changes. Verbal or written warnings will be used at officer discretion during the first year of implementation to ease the transition.
7. Continue to explore a user fee system to offset costs of beach-related recreation such as camping in line with new fee legislation passed by Congress in 2004. Any fee proposal would be drafted only with full public, state, and Corps of Engineers involvement.



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Objective 5.2: Electric Motor and Slow, No Wake Areas.

Beginning in the spring of 2007, establish a total of five Electric Motor Areas on the Refuge encompassing 1,852 acres, and eight Slow, No Wake Areas encompassing 9,720 acres. The Black River Bottoms Slow, No Wake Area will not be implemented until 2008, and the Nelson-Trevino Slow, No Wake Area in 2009. (See Table 24 on page 146 and Table 4 on page 190 of Appendix C, and see maps in Appendix E.) These areas are defined as follows:

Electric Motor Areas. Areas closed year-round to all motorized vehicles and watercraft except watercraft powered by electric motors or non-motorized means. The possession of other watercraft motors is not prohibited, only their use. For example, anglers could switch to an electric trolling motor when entering these areas.

Slow, No Wake Areas. From March 16 through October 31 in these areas, watercraft must travel at slow, no-wake speed and no airboats or hovercraft are allowed. Respective state definitions for what constitutes "slow, no wake" speed or operation will apply as appropriate. The airboat and hovercraft prohibition refers to operation. For example, they could be propelled by electric motors or other means at slow, no wake speed inside these areas during the dates specified.

Rationale: This objective will help reduce disturbance to backwater fish nurseries and sensitive backwater wildlife such as raptors, Black Terns and other colonial nesting birds, and furbearers in keep-

ing with the wildlife mission of the Refuge. It will also address the need to provide areas of quiet and solitude sought by many users of the Refuge, and thus provide a balanced approach in line with the focus of this CCP. This balancing of needs and desire of user groups, and within user groups, is becoming more important as visitation grows, technology advances, and the use of such technology increases (for example jet skis, mud motors, airboats, and hovercraft). The seasonal prohibition of airboats and hovercraft in the Slow, No Wake Areas recognizes the innate and virtually unavoidable noise levels produced by these types of watercraft. The seasonal approach also allows the use of airboats and hovercraft during the trapping season and for about half of the waterfowl hunting season when it is 60 days or longer. Due to the size and scope of the Refuge, space and time restraints are deemed a fair approach to watercraft use on the Refuge in keeping with the overall goal of providing high quality and sustainable wildlife-dependent recreation and opportunities for other recreation.

All Slow, No Wake Areas will take effect in 2007, except the Black River Bottoms Slow, No Wake Area (Pool 7) which takes effect in 2008, and the Nelson-Trevino Slow, No Wake Area (Pool 4) which takes effect in 2009. During public comment, a group of citizens suggested an alternative Slow, No Wake Area in the Big Marsh/Mud Lake area of Pool 7 to replace the Black River Bottoms area. The proposal had several conditions which made it unsuitable. However, since the proposal has merit based on resource values, ease of access, and existing adjacent facilities, the implementation of the Black River Bottoms Slow, No Wake Area is being delayed one year to allow further exploration of the proposal. However, the Black River Bottoms Slow, No Wake Area will be implemented in 2008 unless further consultation with citizens and a decision by the Refuge Manager dictates another course. The implementation of the Nelson-Trevino Slow, No Wake Area is delayed to 2009 to reduce variables (frequency, type, and level of public use) during three years' of waterfowl monitoring planned for the area. The implementation is related to, and coincides with, Waterfowl Hunting Closed Area changes scheduled for 2009 in Pool 4 (see Objective 4.2, Waterfowl Hunting Closed Areas).

This objective only affects the means of navigation in these areas, and all current uses would be allowed (fishing, hunting, camping, wildlife observation, etc.) in accordance with current regulations or those proposed elsewhere in the CCP.

Strategies

1. Conduct a public information campaign to inform and educate the public about pending area designations and implementation dates. Use news releases, media interviews, fact sheets, brochures, and websites in the information effort.
2. Clearly delineate Electric Motor Areas and Slow, No Wake Areas on Refuge maps and by appropriate signing.

Objective 5.3: Slow, No Wake Zones.

In 2007, begin adding 11 new Refuge-administered slow, no wake zones (brings total to 13) and assist local or other units of government in the enforcement of 44 other slow, no wake zones within the Refuge. In Spring Lake and Crooked Slough-Lost Mound (Pool 13), implement in 2007 a speed and distance restriction similar to state regulations: "Watercraft operators must reduce the speed of their watercraft to less than 5 mph when within 100 feet of another watercraft that is anchored or underway at 5 mph or less." (See Table 24 on page 146 and Table 6 on page 193 in Appendix C.)

Rationale: On a few areas of the Refuge, boat traffic levels and size of boats is leading to erosion of island and shoreline habitat, which can impact fish and wildlife habitat and archeological sites directly or indirectly through increasing sedimentation and water turbidity. On some of the areas identified, slower speeds would reduce safety hazards posed by heavy traffic and blind spots in narrow channels. In the Spring Lake and Crooked Slough areas, the speed and distance regulation will address concerns



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of safety and user-conflict without unduly restricting boating use when no other boats are present.

Strategies

1. Work with local authorities to designate and mark slow, no wake zones.
2. Communicate the changes with the public well in advance of implementation using the media and other means, and clearly show slow, no wake zones on maps available to the public.

Objective 5.4: Dog Use Policy.

Beginning March 1, 2007, implement the following new regulation governing dogs on the Refuge:

“No dogs are allowed to disturb or endanger wildlife or people while on the Refuge. All dogs while on the Refuge must be under the control of their owners/handlers at all times or on a leash. No dogs are allowed to roam. All dogs must be on a leash when on hiking trails or other areas so posted. Working a dog in Refuge waters by tossing a retrieval dummy or other object for out-and-back exercise is allowed. However, the above conditions do apply. Dogs are exempt from these conditions while engaged in authorized hunting activities. Owners/handlers of dogs are also responsible for disposal of dog droppings on Refuge public use concentration areas such as trails, sandbars, and boat landings.” Field trials or commercial/professional dog training remain prohibited.

Rationale: This objective relaxes the current Refuge System regulation which prohibits unconfined domestic animals on national wildlife refuges. The new regulation provides stipulations for allowing dogs to be free and would allow owners to exercise their dogs, but protects wildlife from disturbance. The new regulation also helps safeguard other visitors from the real or perceived threat that dogs and other animals can pose, but recognizes their traditional use and conservation benefit in hunting. The prohibition of field trials and commercial or organized dog training is a continuation of a long-standing Refuge policy. This regulation also does not affect the existing regulation that prohibits all other unconfined domestic animals on the Refuge.

Strategies

1. Publish the new regulation in the Refuge public use regulation brochure, issue news



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releases, and conduct other outreach prior to implementation in 2007.

2. Except in certain cases, Refuge law enforcement officers will generally give verbal and/or written warnings for violations of the new regulation the first year, then issue violation notices at their discretion beginning in 2008.

Objective 5.5: General Public Use Regulations.

Beginning in 2007, conduct annual review and update of the general public use regulations governing entry and use of the Refuge (current regulations are found in Appendix J in the Final EIS/CCP).

Rationale: Public entry and use regulations not only protect wildlife, but enhance the quality of the visitor experience and thus reflect the integrated focus of this alternative. The current regulations were last reviewed and amended in 1999. However, the resources and public use of the Refuge are dynamic, and a yearly review would ensure that regulations are needed, clear, and effective. In addition, new regulations may be required to safeguard resources or to address new or emerging problems recognized by managers and law enforcement officers. An annual review would provide a more systematic process than in the past.

Strategies

1. Complete a law enforcement step-down plan for the Refuge in cooperation with the states and the Corps of Engineers.
2. Conduct review during Refuge law enforcement meetings.
3. Provide the public, states, and Corps of Engineers ample opportunity to review and comment on any new or substantially changed regulation.
4. Follow national guidance for any changes affecting hunting and fishing and make part of the Code of Federal Regulations governing national wildlife refuges.
5. Update, print, and distribute the Public Use Regulations brochure.
6. Post pertinent regulations at boat landings and other public use areas, such as trail heads and beach areas.
7. Continue proactive law enforcement to inform and educate the public on Refuge regulations and to seek their compliance.

Goal 6: Administration and Operations.

We will seek adequate funding, staffing, and facilities, and improve public awareness and support, to carry out the purposes, vision, goals, and objectives of the Refuge.

Objective 6.1: Office and Shop Facilities.

By 2010, construct new offices and maintenance shops at Winona, La Crosse, and McGregor Districts, and expand the office and construct a new maintenance shop at the Savanna District. Each office would feature a biological work area or lab, and modest public orientation, interpretation and environmental education capability. Refuge Headquarters would be integrated with either the Winona or La Crosse offices. By 2021, remodel or replace the office and shop at the Lost Mound Unit.

Rationale: This objective emphasizes a balanced approach to replacing current office facilities, with a focus on both the resource and public use responsibilities of the Refuge. The expansion of the Savanna District office would be an additional meeting room/classroom for expanded interpretive programs and environmental education.

Strategies

1. Ensure that Refuge office and maintenance needs are reflected in budget needs databases.
2. Work with the Refuge Friends Group to raise private funds for the Savanna expansion.
3. Continue to maintain Service-owned facilities using annual maintenance budget allocations.

Objective 6.2: Public Access Facilities.

By 2021, add one new boat landing (total of 26), four new walk-in accesses, and one improved canoe landing. Improve five parking areas on the Refuge to support public use. (See Table 24 on page 146, maps in Appendix E, and Table 1 on page 185 in Appendix C.)

Rationale: This objective represents a modest increase in public access facilities to help facilitate wildlife-dependent recreational uses. Since the Refuge is mainly a floodplain Refuge bounded by major rail lines and highways, opportunities for increasing access points is limited. In addition to these accesses, there are 221 other public and private boat accesses that provide access to the Mississippi River or its tributaries, and thus the Refuge.

Strategies

1. Continue routine upkeep of boat accesses by Refuge staff, temporary employees and Youth Conservation Corps members when available, and volunteers.
2. Continue to modernize accesses using Maintenance Management System funding or special funding which is provided periodically. Seek design input from users of the accesses.
3. In cooperation with states and local governments, explore Transportation Enhancement Act projects and funding for new accesses and to upgrade current Refuge accesses.

Objective 6.3: Operations and Maintenance Needs.

Complete annual review of Refuge Operating Needs System (RONS), Maintenance Management System (MMS), and Service Assessment and Maintenance Management System (SAMMS) databases to ensure these reflect the balanced funding needs for carrying out this alternative. Continue to document operations and maintenance needs for habitat projects completed on the Refuge through the Environmental Management Program or any future Navigation and Environmental Sustainability

Program administered through the Corps of Engineers.

Rationale: The RONS, MMS, and SAMMS databases are the chief mechanisms for documenting ongoing and special needs for operating and maintaining a national wildlife refuge. These databases are part of the information used in the formulation of budgets at the Washington and Regional levels, and for the allocation of funding to the field. It is important that the databases be updated periodically to reflect the needs of the Refuge, and in particular the objectives and strategies elsewhere in this alternative.

Habitat projects completed through the Environmental Management Program also carry with them an operations and maintenance obligation. For existing projects, this cost amounted to actual Refuge costs of \$139,000 in 2003 and \$98,600 in 2004. No additional funding is provided by Congress to cover these annual and increasing costs. Estimated annual operations and maintenance costs are expected to grow as projects age, and are projected to average \$365,000 per year during the 15-year span of this plan. These costs could accelerate if Congress authorizes and funds the proposed Navigation and Environmental Sustainability Program as documented in the Corps of Engineers 2005 navigation feasibility study.

Strategies

1. Continue to work with partner organizations in disseminating information on operations and maintenance needs.

Objective 6.4: Public Information and Awareness.

By 2008, increase by 50 percent the current annual average of 80 media interviews, 125 news releases, and 25 special events (special programs, presentations, and displays at others' events), and by 2021 increase information kiosks to 115, an increase of 49. (See Table 24 on page 146 and maps in Appendix E.)

Rationale: This objective reflects an emphasis on providing the public with more information on both resource-related and public use-related aspects of the Refuge in keeping with a balanced approach. The number of kiosks is high given the size and length of the Refuge, numerous access points, and adjacent National Scenic Byways.



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Strategies

1. Hire visitor services specialists for those Districts without, namely Winona and McGregor Districts.
2. Hire a public information specialist at Headquarters to increase effort on interviews, news releases, and special events.
3. Tap other specialists identified in this alternative (e.g. forester, fishery biologist) for information and outreach on resource programs of the Refuge.
4. Continue to look for creative ways to leverage efforts and funding for public information.
5. Carry out related objectives dealing with trails, leaflets, websites and interpretive signs (see objectives 4.10 and 4.11).
6. Cooperate with the states and the Corps of Engineers on visitor surveys to gauge public awareness of the Refuge and Mississippi River resources.

Objective 6.5: Staffing Needs.

By 2021, increase staffing from current permanent, full-time level of 37 people to 63 people (60.5 full-time equivalents or FTEs) in a full range of disciplines which benefit both resource and public use objectives in this alternative (see Table 7 on page 195 in Appendix C).

Rationale: This objective reflects a balanced approach to Refuge management by providing operations and maintenance-funded staffing deemed necessary to meet the goals and objectives of this alternative. The increase in staff would bring the Refuge just above "minimum staffing levels" used

for planning purposes in the National Wildlife Refuge System. Like all land management, refuge management is labor intensive and labor costs represent over 95 percent of the base operations funding received each year. These staffing needs are documented in the strategies for various objectives in this alternative. Based on public input concerning the need for additional law enforcement capability and presence, an additional four full-time law enforcement officers (one for each of the four Refuge districts) were added. This increase in law enforcement capability is still far below levels recommended in various law enforcement assessments and deployment models for a refuge of this size and visitation level.

Strategies

1. Ensure that staffing needs are incorporated in budget needs databases.
2. Maintain other sources of funding for staff who coordinate the Environmental Management Program and the Partners for Fish and Wildlife Program.
3. Strengthen existing volunteer program and recruit new volunteers to assist with resource management and visitor services.

Table 23: Objective Comparison – Existing and CCP

Issue/Objective	Existing Condition	CCP
Goal 1. Landscape. Improve scenic qualities and wild character of the Upper Mississippi River Refuge.		
<i>1.1 Refuge Boundary</i>	Survey problem areas, post boundary as time permits	In coordination with the Corps of Engineers, identify, survey, and post all areas where threat of encroachment is greatest by 2021.
<i>1.2 Acquisition within approved boundary</i>	Acquire from willing sellers about 200 acres per year or 3,000 acres by 2020. Give highest priority to acquisition of lands and waters most important to fish and wildlife.	Acquire from willing sellers an average of 1,000 acres per year or 15,000 acres by 2020 (58% of goal). Give highest priority to acquisition of lands and waters most important to fish and wildlife, but consider public recreation values.
<i>1.3 Bluffland protection</i>	Low-key current approach: support others and support opportunistic acquisition of some bluff areas in boundary	Acquire from willing sellers 13 bluffland areas within approved boundary (Winona District – 6, La Crosse District – 3, McGregor District – 4). Work with partners to leverage resources, and consider a blend of easements and fee-title acquisition.
<i>1.4 Research Natural Areas and Special Designations</i>	No change, continue low-key monitoring, administration, and public information. No new Natural Areas proposed and no Ramsar designation.	More actively administer Natural Areas; complete management plan for each by 2010 with focus on plant and wildlife conservation. No new Natural Areas proposed. Increase effort to make public aware of values and management of Natural Areas by incorporating information in brochures, maps, and websites. Nominate the Refuge as a Wetland of International Significance under Ramsar.
Goal 2. Environmental Health. Improve environmental health of the refuge by working with others.		
<i>2.1 Water Quality (chemistry and sediments)</i>	Current program of seeking improvement in water quality and sediment problems through programs of other agencies, including EMP.	Proactive program to address water quality: # private lands biologists # watershed agreements # assessments # research/education # support UMRBA efforts to standardize water quality criteria Address sedimentation in backwaters through EMP and other programs, with emphasis on improving fish and wildlife habitat. Expand strategies, especially for sedimentation, to include U.S. Geological Survey and others. Ensure that fish and wildlife objectives are met while integrating public use needs such as access.
<i>2.2 Water level management</i>	By 2021, complete drawdowns of Refuge pools.	By 2021, complete as many drawdowns of Refuge pools as practicable through the interagency workgroups based on ecological need and engineering feasibility. Access Trust Fund idea included to help fund access work associated with drawdowns.
<i>2.3 Invasive Plants</i>	Continue modest level of control as funding allows.	Complete invasive plant inventory by 2008 and reduce acres affected by 10% by 2010 recognizing that some level of control should continue before and during inventory work.

Table 23: Objective Comparison – Existing and CCP (Continued)

Issue/Objective	Existing Condition	CCP
<i>2.4 Invasive Animals</i>	Continue modest effort of information and education on invasives and their impact.	Increase efforts to control invasive animals through partnerships with the states and other federal agencies, and increase public awareness and prevention. Highlight the seriousness and urgency of the invasive animal threat, especially in regard to asian carp species and the new threat from trematodes affecting waterbirds.
Goal 3. Wildlife and Habitat. Support diverse and abundant native fish, wildlife, and plants.		
<i>3.1 Environmental Pool Plans</i>	Aggressive implementation of Pool Plans using all tools available, with 30% of the portion of the priority projects/tools within the approved refuge boundary completed by 2021.	Same as Existing Condition.
<i>3.2 Guiding Principles for all habitat management programs</i>	Do not adopt and implement guiding principles.	Adopt and begin use of guiding principles when providing input to design and construction of projects. Principles will integrate public use and aesthetic considerations with fish and wildlife needs. Active management practices are not discouraged (e.g. moist soil, water control structures) and consideration is given to other agency guidelines.
<i>3.3 Monitoring fish and wildlife populations</i>	Continue current monitoring efforts on some key species and habitat indicators, moderate applied research.	Increase monitoring efforts. Amend Wildlife Inventory plan to include more species and more emphasis on habitat monitoring and research. Consult states' new Comprehensive Wildlife Conservation Plans.
<i>3.4 Threatened and Endangered species management</i>	Continue current monitoring of bald eagles, advisory involvement with other listed species.	By 2008, begin monitoring all federally listed threatened or endangered and candidate species and prepare management plans to help recovery. Recognize need to consider state-listed species and other "Species of Greatest Conservation Need" in state plans to help preclude federal listing.
<i>3.5 Furbearer trapping</i>	Continue basic trapping program until refuge trapping plan, with public involvement, is updated by 2007.	Same as existing condition, with expanded trapper and public input as outlined in strategies.
<i>3.6 Fishery and Mussel Management</i>	Continue current modest involvement in fishery and mussel management on the refuge, deferring to states and Service's Fishery Resource Office	Increase refuge involvement in fishery management by: 1. Completing by 2008 a Fishery and Mussel Management Plan which incorporates current monitoring and management by the states and other Service offices. 2. Hire a fishery biologist to facilitate state/Service/refuge coordination. Wording in rationale and strategies modified to emphasize state and Corps of Engineers role.

Table 23: Objective Comparison – Existing and CCP (Continued)

Issue/Objective	Existing Condition	CCP
3.7 <i>Commercial fishing and clamming (see 3.8 for reference to turtle harvesting)</i>	Continue to defer to the states to monitor, regulate, and permit commercial fishing and clamming.	<p>Increase refuge involvement in commercial fishing and clamming by:</p> <ol style="list-style-type: none"> 1. Completing a Fishery and Mussel Management Plan (see Objective 3.6) 2. Issuing refuge special use permits in addition to state-required permits 3. Increase coordination with the states for commercial fishing activity to meet fishery objectives, especially in regards to invasive fish species (see Objectives 2.4 and 3.6) <p>The Refuge will dovetail Refuge permits with state-issued permits to allow “one-stop-shopping”; emphasize state lead in fisheries; and emphasize collaborative approach with states and Corps of Engineers.</p>
3.8 <i>Turtle Management</i>	Continue current limited involvement with turtle management; continue to cooperate with Corps of Engineers and the states studies and turtle management issues.	<p>Increase refuge involvement in turtle management by:</p> <ol style="list-style-type: none"> 1. completing a 3-5 year turtle ecology study of representative habitats of the entire refuge, and 2. coordinating with other agencies on turtle management actions including monitoring, harvest, and limiting disturbance to nests.
3.9 <i>Forest Management</i>	Continue current limited involvement with forest management; continue to cooperate with Corps of Engineers’ forest inventory work.	<p>Increase refuge involvement in forest management by:</p> <ol style="list-style-type: none"> 1. Completing, with Corps of Engineers, a forest inventory for the entire refuge. 2. Hire a refuge forester to complete a Forest Management Plan and lead an active forest management program. 3. Explore ways to leverage funds to add needed forestry technicians at each District.
3.10 <i>Grassland Management</i>	Maintain 5,700 acres of grassland through various management tools including prescribed fire, haying, and control of invasives.	<p>Same as Existing Condition, with additional strategies:</p> <ol style="list-style-type: none"> 1. Complete a step-down Habitat Management Plan to address grassland conservation and enhancement. 2. Explore feasibility of increasing grassland acres due to importance to birds and other wildlife, and added reference to, and strategy for, sand prairie areas.
Goal 4. Wildlife-Dependent Recreation. Ensure abundant and sustainable opportunities for a broad cross-section of the public.		
4.1. <i>General Hunting</i>	Maintain a minimum of 192,219 acres (80%) of land and water open to all hunting. Make no changes to current 8 No Hunting Zones for a total of 3,555 acres.	Maintain a minimum of 187,102 acres (78%) of land and water open to all hunting and clarify this benchmark. Add 4 new No Hunting Zones totaling 505 acres (12 zones total).

Table 23: Objective Comparison – Existing and CCP (Continued)

Issue/Objective	Existing Condition	CCP
<p>4.2 <i>Waterfowl hunting closed areas and sanctuaries</i></p>	<p>Continue current system of 14 Closed Areas and one Sanctuary (no entry). No change in current entry or use regulations. Make only minor adjustments to some areas to clarify boundaries or address operation/maintenance needs. Total acres = 44,544 Closed Areas = 14 Sanctuaries = 1</p>	<p>In fall 2007 (except fall 2009 for Pool 4):</p> <ol style="list-style-type: none"> 1) Add 8 new closed areas/sanctuaries and delete or modify the current 15 for a total of 23. 2) Add 2 new Waterfowl Sanctuaries (no entry) for a total of 3: <ol style="list-style-type: none"> a. Pool Slough Sanctuary (McGregor District, Pool 9, Iowa/Minnesota) b. Guttenburg Ponds portion of the 12 Mile Slough Closed Area (McGregor District, Pool 11, Iowa) c. Spring Lake Sanctuary (Savanna District, Pool 13, Illinois – existing) 3. Voluntary Avoidance on all large closed areas Oct. 15 to the end of the respective state duck season and no motors and Voluntary Avoidance on small closed areas (~1,000 acres or less) Oct. 15 to the end of the respective state duck season. Exceptions for sanctuaries and Bertom/McCartney Closed Area, Pool 11. Establish threshold for disturbance. 4) Wisconsin River Delta Special Hunt Area: Closed to hunting and trapping, and a voluntary avoidance area, November 1 to end of duck hunting season. 5) Some boundary adjustments to the Lake Onalaska Closed Area. The Voluntary Avoidance Area would continue. 6) Policy and strategy added to address fish habitat projects in closed areas. <p>Total acres = 43,652 Closed areas = 20 Sanctuaries = 3</p>
<p>4.3 <i>Waterfowl hunting regulation changes</i></p>	<p>No major changes to current waterfowl hunting regulations.</p>	<p>In 2007, prohibit open-water waterfowl hunting in Pool 11, river miles 586-592, Grant County, Wisconsin. No daily shotshell limit or hunter spacing regulation.</p>
<p>4.4 <i>Firing Line -- Pool 7, Lake Onalaska, La Crosse District</i></p>	<p>Status quo, do not address the firing line issue beyond existing laws and regulations.</p>	<p>By Oct. 1, 2006, develop plan in cooperation with local waterfowlers and state managers and conservation officers for the area north of the Lake Onalaska Closed Area (Gibbs Lake) to address firing line issue.</p>
<p>4.5 <i>Permanent hunting blinds on Savanna District</i></p>	<p>Continue current program.</p>	<p>Phase-out the use of permanent hunting blinds and the practice of leaving decoys sets overnight beginning with Pool 12 after the 2006-07 season, Pool 14 after the 2007-08 season, and Pool 13 after the 2008-09 season.</p>
<p>4.6 <i>Potter's Marsh Managed Hunt Savanna District</i></p>	<p>Continue current program but make some administrative changes.</p>	<p>For 2006-07 hunting season, implement a variety of administrative changes. Permanent blinds would be eliminated after the 2007-08 season, but boat blind sites provided and managed.</p>
<p>4.7 <i>Blanding Landing Managed Hunt Program (Lost Mound Unit, Savanna District)</i></p>	<p>Continue current managed hunt as previously managed by the Illinois DNR: 15 permanent blind sites awarded by drawing.</p>	<p>After the 2006-07 season, eliminate the managed hunt program, including use of permanent blinds. Open to all on first come basis.</p>

Table 23: Objective Comparison – Existing and CCP (Continued)

Issue/Objective	Existing Condition	CCP
<i>4.8 Fishing</i>	Provide 140,545 acres of surface water open to year-round fishing. An additional 2,736 acres open except October 1 to the end of the state duck hunting season. Maintain 15 fishing piers/docks.	Provide approximately 140,000 acres of surface water open to year-round fishing. An additional 5,050 acres open except Oct. 1 to the end of the state duck hunting season. Add 3 new fishing piers/docks for total of 18.
<i>4.9 Fishing Tournaments</i>	Continue current “hands off” approach to regulating fishing tournaments.	Issue refuge special use permits for tournaments in addition to state-required permit, to minimize impact to sensitive fish, wildlife, and habitat. Implement “one-stop-shopping” by dovetailing Refuge permits with state-issued permits. Emphasize the state’s lead in fisheries management and collaborative work with states and Corps of Engineers.
<i>4.10 Wildlife Observation and Photography</i>	Maintain the following existing facilities: 15 observation areas 6 hiking trails 4 canoe trails 3 biking trails 1 auto tour route	Maintain the following existing or new facilities: 25 observation areas 14 hiking trails 19 canoe trails 6 biking trails 3 auto tour routes 3 observation towers 4 photography blinds
<i>4.11 Interpretation and Environmental Education</i>	Maintain 59 interpretive signs. Continue Refuge brochure and website. Sponsor 1 major annual interpretive event on each District. No change in current visitor services staffing.	Maintain 102 existing and new interpretive signs. Build 3 new District Offices and new Lost Mound office, all with visitor contact facilities. Do not build major visitor center. Continue refuge brochure and website. Sponsor 2 major annual interpretive events and establish 1 environmental education program on each district. Add visitor services specialists to McGregor and Winona Districts, and one at the Nat’l Miss. River Museum in Dubuque.
<i>4.12 Fish Floats</i>	Continue to allow 4 existing fish floats under current annual permits, stipulations, and \$100 annual fee.	Develop new standards for fish float facilities and operations, including new concession fees. Phase out floats that can not meet those standards, however, solicit new proposals for any float phased out for not meeting standards. Base decision to replace floats on adequacy and feasibility of proposals.
<i>4.13 Guiding services</i>	Continue inconsistent, low-key approach to issuing permits for hunting, fishing, and wildlife observation guiding.	Provide policy and consistent process for issuing permits for hunting, fishing and wildlife observation guide services. Coordinate with the states for consistency with their permitting requirements. Cooperate with the states and the Corps of Engineers to provide “one-stop-shopping” for permits when possible.

Table 23: Objective Comparison – Existing and CCP (Continued)

Issue/Objective	Existing Condition	CCP
Goal 5. Other Recreational Use. Provide opportunity for traditional and appropriate non-wildlife dependent use that is compatible with the Refuge.		
<p>5.1. <i>Beach use and maintenance policy and regulations</i></p>	<p>Open policy. No limits on areas open to camping, boat mooring, swimming, social gatherings, picnicking and other non-wildlife-dependent uses, subject to current regulations. No new regulations and use current guidance for beach maintenance.</p>	<p>Open-unless-closed policy. All areas currently open to camping, boat mooring, swimming, social gatherings, picnicking and other non-wildlife-dependent uses, would remain open, except:</p> <ol style="list-style-type: none"> 1) Current camping area regulations remain in effect (all open, except in sight of main channel and not in Closed Areas during waterfowl season). 2) Managers may close areas for bona fide wildlife and human health and safety concerns; maintain proper coordination with states and Corps of Engineers and notice to public. 3) Enforce existing alcohol regulations 4) Increased “Leave No Trace” education and outreach. Human solid waste must either be removed or buried on-site in accordance with other back country public land regulations. 5) Regulations prohibiting the use of glass food and beverage containers on Refuge lands added. 6) New camping definition retained. 7) Retain “explore” user fee for camping and other beach-related uses, but wording added for interagency and citizen involvement before crafting any proposal. 8) “Adopt-A-Beach” program strategy added 9) Articulate clear beach maintenance policy, and work with interagency teams to complete beach plans by pool.
<p>5.2. <i>Electric Motor Areas and Slow, No Wake Areas</i></p>	<p>Current program with only 1 electric motor area of 222 acres (Mertes Slough, Winona District).</p>	<p>Designate 5 electric motor areas (4 are new, Mertes existing) encompassing 1,852 acres, and 8 slow, no wake areas* encompassing 9,720 acres. Black River Bottoms and Nelson-Trevino SNWAs effective 2008 and 2009 respectively. Delete 4 areas from any designation. All current uses allowed. <i>*From March 16 through October 31, Slow, No Wake for watercraft and no airboats or hovercraft allowed.</i></p>
<p>5.3 <i>Slow, No Wake Zones</i></p>	<p>Maintain 2 existing slow, no wake zones administered by the Refuge, and assist in enforcement of 44 others.</p>	<p>Add 11 new Slow, No Wake Zones, bringing total to 13 administered by the Refuge, and assist with enforcement of 44 others. Spring Lake and Crooked Slough (Lost Mound): adopt Iowa regulation of under 5 mph if within 100 feet of another vessel going under 5 mph versus slow, no wake.</p>

Table 23: Objective Comparison – Existing and CCP (Continued)

Issue/Objective	Existing Condition	CCP
<i>5.4. Dog use policy</i>	Maintain current regulations: dogs and other animals must be confined, except dogs during hunting seasons. No field trials or commercial training will be permitted (current policy).	Adopt regulation which safeguards wildlife and visitors yet allows dog exercising: No dogs are allowed to disturb or endanger wildlife or people, and must be under the control of their owners/handlers and leashed when on hiking trails or other areas so posted. Exercising retrievers allowed and dogs exempt during authorized hunting. Provision for cleaning up after dogs included. Professional training and field trials remain prohibited.
<i>5.5. General Public Use Regulations</i>	Make no changes to public entry and use regulations for the Refuge.	Conduct annual review, and update as needed, general public use regulations governing public entry and use of the Refuge. Complete a Law Enforcement step-down plan for the Refuge in cooperation with the states and Corps of Engineers.
Goal 6. Administration and Operations. Seek adequate funding, staff, and facilities; improve public awareness of Refuge.		
<i>6.1 Office and shop facilities</i>	Maintain existing offices (6) and shops (5), but replace the maintenance facilities at Winona and Savanna Districts by 2006.	By 2010, construct new offices and maintenance shops at Winona, La Crosse, and McGregor Districts, and expand the office and construct a new maintenance shop at Savanna District. Each office would feature a biological work area or lab, and modest visitor facilities. Refuge Headquarters would be integrated with either the Winona or La Crosse offices. By 2020, remodel or replace office and shop at the Lost Mound Unit.
<i>6.2 Public access facilities</i>	Maintain and modernize as needed, 25 existing public boat accesses.	Add 1 new boat access, 4 new walk-in accesses, 1 new and 1 improved canoe landing, and improve 5 parking areas.
<i>6.3. Operations and maintenance needs</i>	Complete annual review of Refuge Operating Needs System (RONS), Maintenance Management System (MMS), and Service Assessment and Maintenance Management System (SAMMS) databases to ensure these reflect needs of current direction.	Complete annual review of Refuge Operating Needs System (RONS), Maintenance Management System (MMS), and Service Assessment and Maintenance Management System (SAMMS) databases to ensure these reflect needs of management direction with a wildlife and integrated public use focus. Account for maintenance needs of large habitat projects (e.g. Environmental Management Program projects).
<i>6.4. Public information and awareness</i>	Continue current annual average of 80 media interviews, 125 news releases, and 25 special events (special programs, presentations, and displays at others' events). Maintain existing 66 kiosks.	Increase by 50 percent the current annual average of 80 media interviews, 125 news releases, and 25 special events (special programs, presentations, and displays at others' events). Add 49 kiosks. Take advantage of technical and specialist positions to increase outreach.
<i>6.5 Staffing needs</i>	No change in staffing level of 37 people (37 FTEs)	By 2021, increase staffing to 60.5 FTEs to bring all Districts to minimum staffing level, add specialists to Headquarters, increase staff at Lost Mound Unit (priority would be a blend of wildlife and public use positions), add 4 full-time Refuge Officers based on public and agency comment.

Table 24: Summary of Project Features

Feature	Existing Features		CCP		Comments for CCP
	Units	Acres or Miles	Units	Acres or Miles	
Waterfowl Closed Areas and/or Sanctuaries	15	44,544	23	43,652	
No open water hunting areas	0	0	1	4,000	1 area in Pool 11
Managed / Special Hunts	2	2,434	3	~3,530	Gibb's Lake, Pool 7; Wisconsin River Delta, Pool 10; Potter's Marsh, Pool 13
Administrative no hunting zones	8	3,555	12	4,060	Existing and CCP acres include Lost Mound Contaminated No Entry Area (2,467 acres)
Fish catch and release area	1	700	1	700	
Heron sanctuary	0	0	0	0	
No-wake zones	46	NA	57	N/A	
Electric motor areas	1	222	5	1,852	
Slow, No Wake Areas	0		8	9,720	
Research Natural Areas	4	6,946	4	6,946	
Trails					
Canoe trails	4	32.1	19	120.6	
Hiking trails	6	20.5	14	36.5	
Auto tour routes	1	2.5	3	11.0	
Biking trails	3	10.0	6	21.1	
Access Facilities					
Fishing Piers	15	NA	20	N/A	
Commercial fishing floats / piers	4	NA	4	N/A	
Boat access	25	NA	26	N/A	
Walk-in access	0	NA	4	N/A	
Canoe landing / launch	1	NA	2**	N/A	** Includes proposed improvement to Reno Canoe Launch (non-FWS)
Parking lot improvements	0	NA	5	N/A	
Wildlife Observation Facilities					
Observation decks/areas	15	NA	25	N/A	
Observation towers	0	NA	3		
Photo blinds	0	NA	4	N/A	
Signage					
Kiosks	66	NA	115	N/A	
Interpretive signs	59	NA	102	N/A	
Entrance signs	25	NA	30	N/A	
Official Notice Boards	30	NA	49	N/A	
Proposed Buildings					
Build new maintenance facilities	2	NA	5	N/A	
Build new office facilities	0	NA	3	N/A	HQ office combined with Winona or La Crosse office.
Build major visitor center	0	NA	0	N/A	
Refuge Staffing	37.0	NA	60.5	N/A	Number of FTEs (Full Time Equivalents)

**Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021* ,
Upper Mississippi River NWR**

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 4	Stabilize Crats Island	Lower Big Lake	Big Lake	Robinson Lake (mud flats)	Restoration of Distributary Channels of Zumbro River	L&D 4	Barton / Lofgren Tract	Pool-wide	Zumbro River bottoms	Peterson Lake HREP	Barton / Lofgren Tract	Chippewa River delta	Barton Lofgren	Hire Private Lands Biologist	Chippewa River
	Stabilize Islands Lower Pool (WI)	Peterson Lake	Robinson Lake	Rieck's Lake (mud flats)	Block break in Catfish Slough			Rieck's Lake	Remaining 1987 Master Plan tracts within floodplain	Nelson/Trevino Research Natural Area	Indian Slough delta	Nelson-Trevino bottoms	Grand Encampment	Coop Agree. for buffers to reduce runoff	Buffalo River
	Stabilize Island Robinson Lake	Robinson Lake	Peterson Lake								Monitor Pool-wide	Main channel and barrier island	Crats Island		
	Monitor Drury and Hershey Islands	Beef Slough	Plan with new island construction									Complete Forest Inventory by 2006	Finger Lakes Disposal Site		

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 5	Protect Islands near Buffalo City	Lower Pool 5 Island cluster	Weaver bottoms	Spring Lake	Restoration of distributary channels of Zumbro River	L&D 5	Lizzy Paul's Pond	Pool-wide	Buffer around Lizzy Paul's Pond	Finger Lakes HREP	Lost Island/Weaver	Main channel and barrier islands	Wabasha Prairie	Hire Private Lands Biologist	Zumbro River
	Monitor Sommerfeld Islands	Weaver bottoms / Lost Island	Spring Lake	White-water delta	Evaluate flowing channels off Zumbro River to Weaver bottoms			Lizzy Paul's Pond	Zumbro River delta	Island 42 HREP	Wabasha Prairie	Complete forest inventory	Swan Island	Coop Agree. for buffers to reduce runoff	White-water River
		Lower Pool 5 Seed Islands Krueger Slough area	Lower Pool	Weaver Islands						Remaining 1987 Master Plan tracts within floodplain	Weaver Islands Spring Lake HREP	Monitor Pool-wide		Spring Lake HREP	

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 5A	Protect Islands in Lower Pool	Polander Lake Seed Islands	Snyder Lake	Maintain mud flats Polander Islands	Evaluate side channel closures, wing dams and other structures	L&D 5A		Pool-wide	Remaining 1987 Master Plan tracts within floodplain	Polander Phase 1 and 2 HREP	Twin Lakes	Minnesota City bottoms	Prairie Island Natural Area	Hire Private Lands Biologist	Garvin Brook
	Monitor existing islands	Additional islands in Polander	Betsy Slough							Prairie Island Natural Area	Prairie Island Natural Area	Main channel and barrier islands	McNally Landing	Coop Agree. for buffers to reduce runoff	
			Twin Lakes								Prairie Island Dike		Polander Channel Island		
			Polander								McNally Landing		Polander Island		
			Plan with new island construction								Monitor Pool-wide				

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 6	Monitor existing islands	Lower Pool 6	Lower Pool (secondary and tertiary islands)	Pools A & E on Trempealeau NWR	Modification of training structures	L&D 6	Pool C2 Trempealeau NWR	Pool-wide	Remaining 1987 master plan tracts within floodplain	Protect Refuge Islands	Pool 6 Islands	Refuge Islands	Trempealeau NWR	Hire Private Lands Biologist	Trempealeau River
		Pools A & B of Trempealeau NWR	Upper Pool (secondary and tertiary islands)		Modification of road and railroad embankments, levees			Pool A Trempealeau NWR				Trempealeau NWR	Trempealeau NWR	Coop Agree. for buffers to reduce runoff	Trout Creek
			Pools A & B Trempealeau NWR in conjunction with island construction									Monitor Pool-wide			

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 7	Lake Onalaska	Lake Onalaska	Black River bottoms	Lake Onalaska	Black River bottoms	L&D 7	Lower Halfway Creek Marsh	Pool-wide	Black River bottoms	Completed EMP and other habitat projects	Lake Onalaska	Black River bottoms & delta	Midway Railroad Prairie	Hire Private Lands Biologist	Sand Lake Coulee / Halfway Creeks
	Main channel islands		Lake Onalaska		Lake Onalaska				Halfway Creek Addition	Black River bottoms	Black River bottoms	Lake Onalaska Islands	Mathy Prairie	Coop Agree. for buffers to reduce runoff	Black River
			Upper Pool 7		L&D 7				Office site	Halfway Creek Marsh	Halfway Creek Marsh	Barrier Island complex	Brice Prairie	La Crosse County (WI) and Winona County (MN)	
									Remaining 1987 master plan tracts			Main channel islands			

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 9	Harpers Slough	Harpers Slough	Harpers Slough	Harpers Slough	Breech berm of Upper Iowa River	L&D 9		Pool-wide	1987 Master Plan tracts	Conway Lake	Rush Creek delta	Conway Lake		Hire Private Lands Biologist	Upper Iowa River
	Capoli Slough	Capoli Slough	Capoli Slough	Capoli Slough	L&D 8					Existing EMP Projects	Cold Springs	Upper Iowa River Delta		Breech berm of Upper Iowa River	Bad Ax River
	Lake Winne-shiek	Conway / Phillipi	Conway / Phillipi	Lake Winne-shiek						Reno bottoms	Crooked Creek (Reno)	Reno bottoms		Coop Agree. for buffers to reduce runoff	Village Creek
	Willow Island	Lake Winne-shiek	Lake Winne-shiek	Goose Carcass Lake area							Reno Bottoms	Wexford Creek delta			Kettle Creek (Cold Springs)
	Boot Jack Island	Lower Harpers Slough	Lansing Big Lake area								Winne-shiek Creek				Winne-bago Creek
			Goose Carcass Lake area												Wexford Creek
														Rush Creek	
														Sugar Creek	

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 10	McGregor Lk.	McGregor Lk.	McGregor Lk.	McGregor Lk.	Jay's Lake/ State Line Slough	L&D 10		Pool-wide	1987 Master Plan Tracts	Pool 10 Islands (lower pool)	Inventory pool	Pool-wide		Hire Private Lands Biologist	Yellow River
	Pool 10 islands (lower pool)	Pool 10 islands (lower pool)	Pool 10 islands (lower pool)	Pool 10 islands (lower pool)				Existing EMP projects							
	East Channel Island (nav channel side)		Harpers Slough (upper pool complex)		Grimmel Lake									Coop Agree. for buffers to reduce runoff	Paint Creek
			Jay's Lake / State Line Slough												
				French-town Lake											Bloody Run
															Wisconsin River

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 11	Patzner Island	Pool 11 Islands incl. Sinnipee Creek Islands	Ball's Island	Pool 11 Islands (lower pool)	Hay Meadow Lake	L&D 10 spillway	Turkey River bottoms	Pool-wide	Turkey River	Hay Meadow Lake bottoms	Inventory pool-wide	Turkey River delta		Hire Private Lands Biologist	Turkey River
	Snyder Island		Snyder Island												
	Coal Pit Slough		Jack Oak Island							Dago Slough			Grant River		
	Jack Oak Island		Spring-Dead Lake							Patzner Island			Platte River		
	Below L&D 10		Little Maquoketa River delta												

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 13	RM 548.6 Maq. River	Lower Pool 13 Islands	Spring Lake		Modify Dam 12 to increase flows / carry silt	Include in dam renov.		Pool-wide	1987 Master Plan tracts	EMP Projects	Purple loose-strife, Reed canary grass, Cucumber vine, Multiflora rose, Garlic mustard	Increase island elevation with dredge material for bottom-land trees on main channel islands and barrier islands.	Control invasives with fire, mechanical, chemical Restore native prairies	Hire Private Lands Biologist	Maquoketa River
		Elk River islands	Lower Pool and Gomer's Lake												
	RM 540.0 Kellers Island	Plan with dredge projects	Crooked Slough		Construct low berm to deflect flow from Elk River										Plum River
	RM 540.6		Millers Hollow												Apple River
	Monitor existing islands along main channel		Running Slough												
		Elk River													
			Pin Oak Lk.												

Table 25: Refuge Priority Locations and Actions That Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR (Continued)

Environmental Pool Plan Actions Needed to Achieve Desired Future Habitat**															
Pool	Protect Islands	Construct Islands	Increase Depth, Dredge	Construct Mud/Sand Flats	Direct Water Flows	Fish Passage	Construct Moist Soil Units	Pool Draw-downs	Land Acquisition	Maintain Existing Habitat	Reduce Invasive Species	Forest Management	Prairie Management	Assist Private Land-owners	Watershed Management
Pool 14	Monitor existing islands along main channel		Beaver Island		Increase flows with modification of Dam 13 to Jacobs Slough	Include in dam renov.			1987 Master Plan Tracts	EMP Projects	Purple loose-strife, Reed canary grass, Cucumber vine, Multiflora rose, Garlic mustard	Increase Island elevation with dredge material for trees: Meredosia Island, Swan Island, Steamboat Island, Wapsi bottoms	Control invasives with fire, mechanical, chemical	Hire Private Lands Biologist	Rock Creek
			Steamboat Island		Restore side channel and braided sloughs: Meredosia Island and Swan Island								Restore native prairies		Wapsipinicon River
			Rock Creek Shricker's Lake										Coop Agree. for buffers to reduce runoff		
			Wapsipinicon River bottoms												
Total Actions	37	28	60	18	28	13	7	11	20	27	32	32	21	12	39
* Locations are in priority order within each pool, top to bottom.															
**Environmental Pool Plans (Pools 2-11) were endorsed by the River Resources Forum, St. Paul District, US Army Corps of Engineers. Pool Plans were developed by the Forum's Fish and Wildlife Workgroup and reviewed by the public. Pool Plans for Pools 12-14 were endorsed by the River Resources Coordinating Team, Rock Island District, US Army Corps of Engineers and developed by the Team's Fish and Wildlife Interagency Committee.															