

Chapter 2: Alternatives, Including the Proposed Action



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2.1 Introduction

The Service proposes to adopt and implement a CCP to guide the management and administration of the Refuge for the next 15 years. This Chapter presents and compares a range of reasonable alternatives for this proposed action, including a preferred alternative. It also includes information on the development of the alternatives, alternatives or components considered but dropped from further analysis, and elements or actions common to all alternatives. Table 1 on page 173, Table 2 on page 192, and Table 3 on page 195 summarize, compare, and contrast each alternative.

2.2 Development of Alternatives

Initial alternatives were developed in spring 2003, after eight months of initial scoping and public involvement. These alternatives were no action, protection, conservation, and multiple-use. These draft alternatives, with general descriptions, were presented to the public through a newsletter in July 2003. After further internal review, the themes or titles of these alternatives were changed to provide clarity and reduce overlap.

Four alternatives (A through D) were included in the Draft EIS/CCP released for public review May 1, 2005 for a 120-day comment period ending August 31, 2005. The Refuge hosted 21 public meetings and workshops attended by 2,900 persons and received 2,438 written comments. Due to the high level of input and concern with some aspects of the preferred alternative, the Refuge announced in July 2005 its intent to issue a new preferred alternative after the comment period ended. The supplement to the Draft EIS/CCP was issued December 5, 2005 for a 60-day comment period which was extended to 90 days. The supplement was known as Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative) and brought to five the total number of alternatives.

The five alternatives are listed below and described in detail in Section 2.4.

<i>A: No Action (Current Direction)</i>	Continue current level of effort on fish and wildlife and habitat management. Public use programs would remain virtually unchanged.
<i>B: Wildlife Focus</i>	Increase level of effort on fish and wildlife and habitat management. Some public use opportunities and programs would remain the same, others reduced in favor of wildlife and habitat protection.
<i>C: Public Use Focus</i>	Increase level of effort on public use opportunities and programs. Continue current level of effort on many fish and wildlife and habitat management activities, and decrease effort on others in favor of public use.
<i>D: Wildlife and Integrated Public Use Focus</i>	Increase level of effort on fish and wildlife and habitat management. Take a more proactive approach to public use management to ensure a diversity of opportunities for a broad spectrum of users, both for wildlife-dependent uses and traditional and appropriate non-wildlife-dependent uses.
<i>E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)</i>	Increase level of effort on fish and wildlife and habitat management. Take a proactive but balanced approach to public use management to ensure a diversity of opportunities for a broad spectrum of users, both for wildlife-dependent uses and traditional and appropriate non-wildlife-dependent uses.

These alternatives represent broad, thematic approaches to management and administration of the Refuge, recognizing the latitude managers have in focusing human and fiscal resources within the framework of Refuge System laws and policy.

The alternatives reflect direction in the Refuge Improvement Act of 1997, Service policy for administration and management of refuges, and a host of ongoing conservation initiatives affecting the Mississippi River. The alternatives were also developed to address a suite of issues, and indeed, are structured to track the issues, challenges, and opportunities presented in Chapter 1. As an integrated EIS and CCP, the details of the alternatives are described in terms of the main components of a CCP, namely measurable objectives and strategies to achieve those objectives.

Most importantly, these alternatives are designed to help the Refuge contribute to the mission of the Refuge System; meet the purposes for which Congress established the Refuge in 1924; and help achieve the Refuge vision, goals, and related needs. The degree to which each alternative meets these needs (Table 3 on page 195), along with the environmental consequences of each alternative (Chapter 4), will provide the basis for a final decision and a CCP for the Refuge.

2.3 Alternative Components Not Considered for Detailed Analysis

The wide range of issues, high public and agency interest, and complexities of the river environment provide fertile ground for a diversity of management approaches. During scoping, public involvement, and the development of the objectives which make up each alternative, many different ideas and solutions were presented, explored, and debated. The following alternative components were considered but not selected for further analysis in this Draft CCP and EIS for the reason(s) described.

Expansion of the Refuge: The approved Refuge boundary was expanded during the 1987 Master Plan process and subsequent expansion proposals for special resource areas at Halfway Creek near Onalaska, Wisconsin and the former Savanna Army Depot near Savanna, Illinois. Given the current rate of acquisition, the 15-year time frame of the CCP, and the approximately 30,000 acres yet to be acquired, an expansion of the Refuge was not included in the alternatives.

Expand Research Natural Areas and Establish Wilderness: It is a requirement in Service policy to review a refuge for special designation during the planning process. No areas were deemed suitable for either additional Research Natural Areas (there are currently four) or Wilderness status due to habitat conditions, the overlapping navigation project, and current development and use. Thus, this alternative component was not analyzed further.

Establish Fish Sanctuaries on the Refuge: Iowa, Wisconsin, and Illinois have implemented seasonal closures and/or size limits below locks and dams 11, 12, and 13 to protect walleye and sauger from overharvest during vulnerable times of the year. This alternative component was considered, but since data on these areas is still being collected, impacts are yet uncertain, and not all states or fishery biologists agree on the need for or effectiveness of fish sanctuaries, this alternative was not explored further. However, it could be considered during future reviews of this plan.

Establish Turtle Sanctuaries on the Refuge: The importance of the Refuge to many species of turtles is beginning to be understood. Many beach areas on the Refuge are used extensively by turtles for nesting and used extensively by the public for recreation. Delineating sanctuary or no entry areas to protect turtle nests was explored. However, there is not enough information on turtle nesting ecology and human impacts at this time to establish turtle sanctuaries. The alternatives do, however, address the needs of turtles and do explore other alternatives for addressing human impacts.

Prohibit Non-Wildlife-Dependent Recreation on the Refuge: This alternative component would ban public uses such as swimming, camping, waterskiing, and picnicking. It was not deemed realistic given the various jurisdictions and authorities, enforcement practicalities, and commercial and social considerations. However, more proactive management of these uses is proposed in some alternatives.

Limit Watercraft Types on the Refuge: During scoping and public involvement, concerns were expressed about airboats, jet skis and other modern watercraft disturbing wildlife and other Refuge user groups. Banning any type of watercraft on the entire Refuge was not deemed a reasonable alternative due to the mix of jurisdictions and authorities within the Refuge. The issue of disturbance from these types of craft is, however, addressed in other ways in the alternatives.

2.4 Alternatives Carried Forward for Detailed Analysis

2.4.1 Elements Common to All Alternatives

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, Section 1.4.3 and is an important element common to all alternatives, and indeed, will be critical to carrying out the CCP which emerges from the Final EIS. 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.

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.

National Environmental Policy Act (NEPA) Compliance: Since this EIS and CCP are 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 EIS and CCP alternatives 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 this 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 is proposed in the alternatives, protection of these species is common across all alternatives. 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. A section on the environmental consequences of prescribed fire is included in Chapter 4. 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 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 alternatives. 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 alternatives 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. Regardless of alternative, 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 outlined in the Draft CCP and EIS. 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 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.

2.4.2 Alternative A: No Action (Current Direction)

Alternative A Summary

Boundary issues would be addressed as time and funding for surveying allow. There would be a continuation of acquisition of lands at a modest rate within the approved boundary, or about 200 acres per year. No special effort would be undertaken to safeguard blufflands and manage Research Natural Areas. Guiding principles for habitat projects would not be established.

Existing programs and effort would address sedimentation and other water quality issues. Pool-scale drawdowns would continue at current, intermittent level. Control of invasive plant species would be modest, and control of invasive animals would be minimal, relying on the work of the states and other agencies. Environmental Pool Plans would be implemented on a strategic and opportunistic basis using the Environmental Management Program. Wildlife inventory and monitoring would remain unchanged with continued focus on waterfowl, colonial nesting birds, eagles, and aquatic invertebrate/vegetation sampling. Management of threatened and endangered species would focus on protection versus recovery. The furbearer trapping program would continue but be brought into compliance with policies by writing a new plan. There would continue to be limited emphasis on fishery and mussel management and commercial fishing oversight. Cooperation with the states and Corps of Engineers on turtle monitoring and research would continue, and a forest inventory on the Refuge would be completed in cooperation with the Corps of Engineers. Existing grassland habitat on the Refuge would be maintained and enhanced using fire and other tools.

Hunting and fishing opportunities would continue on a large percentage of the Refuge. The system of waterfowl hunting closed areas would remain the same except for minor boundary adjustments. Entry into closed areas for purposes other than hunting, trapping, and camping would continue to be allowed, although the voluntary avoidance area on Lake Onalaska would remain in place. No action would be taken on the firing line issue north of the closed area in Lake Onalaska. No major changes would be made to current hunting regulations. Permanent blinds for waterfowl hunting and the Potter's Marsh and Blanding Landing managed hunts in the Savanna District would continue, although administrative changes would be made to promote fairness and efficiency. No action would be taken on regulating fishing tournaments.

There would be no increase in facilities or programming for wildlife observation, photography, interpretation and environmental education, with a focus on maintaining the status quo. There would be a modest increase in Refuge access through improvement of existing boat ramps, pull offs, and overlooks. Commercial fish floats or piers would be governed by current permit procedures and stipulations. Guiding on the refuge would continue with little oversight. Beach-related public use (camping, swimming, picnicking, social gatherings) would continue with little change and beach planning and maintenance would continue at low levels. One electric motor area would remain (Mertes Slough, Pool 6), and no new slow, no-wake zones established. Current regulations on the use of dogs would remain in place. There would be no substantive changes made to current public use regulations.

There would be no new offices or shops constructed for Headquarters or the Districts, with the exception of a new shop for the Winona and Savanna districts since they are already scheduled. Staffing levels for the Refuge would remain the same, as would public outreach and awareness efforts.

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. Each year, request survey of problem boundary areas to curb encroachment issues.

Rationale: Current funding and surveying capabilities limit a systematic surveying of the Refuge boundary. This objective would address problems on a case-by-case basis as they occur.

Strategies

- # Conduct yearly surveillance of problem boundary areas which are normally those which border private lands.
- # Work with Corps of Engineers on those boundary issues affecting Corps of Engineers-acquired lands that are part of the Refuge.

Objective 1.2. Land Acquisition: By 2021, acquire from willing sellers 12 percent of the lands identified for acquisition in the 1987 Master Plan and subsequent approvals, as identified on the maps in Appendix G (approximately 200 acres/year).

Rationale: Land acquisition can be a cost effective tool to ensure protection of important fish and wildlife habitat and to close gaps between existing parts of the Refuge. On the Service's Land Acquisition Priority System, the Refuge ranks 6th nationally due to its resource importance. This objective represents the current modest and opportunistic land acquisition program of about 200 acres per year to achieve goals set in the 1987 Master Plan and other approved acquisition documents.

Strategies

- # Seek consistent Land and Water Conservation Fund appropriations to meet the objective (approximately \$300,000 per year at \$1,500 per acre).
- # Explore land exchanges with the states to remove intermingled ownerships. 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 at least 1 of 13 bluffland areas within the approved boundary of the Refuge as identified in the 1987 Master Plan. (See maps, Appendix G.)

Rationale: There have been no acquisitions of bluffland areas since first identified in the 1987 Master Plan, so current efforts are minimal, as represented by this objective. Blufflands are an important part of maintaining the scenic quality of the Refuge landscape and harbor unique and diverse plants and animals. In recent years, peregrines 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.

Strategies

- # Seek consistent acquisition funding as noted in Objective 1.2. Work with the states, local governments, and various private land trusts to protect bluffland habitat and scenic values.
- # Work with local units of government to encourage zoning regulations which protect bluffland scenic qualities.
- # Educate the public on the values of blufflands for birds and unique plant communities.

Objective 1.4

Research Natural Areas and Special Designations: Conduct yearly visits to the Refuges' four federally-designated Research Natural Areas and document condition, check boundary signing, and conduct ongoing wildlife surveys. No new Natural Areas would be established. (See maps, Appendix P and Table 7 on page 229.)

Rationale: This objective represents the current level of management which is expected to continue under this alternative. 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.

Strategies

- # Ensure yearly visits remain a part of annual work plans in each Refuge District containing Research Natural Areas.

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, seek a continuous improvement in the quality of water flowing through and into the Refuge in terms of parameters measured by the Long Term 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 directly given the immense size of the Refuge's watershed and current funding levels and staffing. This objective recognizes these limitations, but highlights the advocacy role the Refuge can play in supporting the myriad of agencies which together can influence water quality.

Strategies

- # Continue conservation assistance agreements with Soil and Water Conservation Districts.
- # Use the Service's Partners for Fish and Wildlife Program to restore and enhance wetland and riparian habitat off-refuge.
- # Consider water quality aspects in all habitat enhancement projects, especially habitat projects which reduce sediment in backwaters.
- # Link planning and projects for tributary watersheds to Pool Plan implementation.
- # Support cooperative water quality monitoring and improvement efforts through the Upper Mississippi River Conservation Committee and other groups and agencies.

Objective 2.2:

Water Level Management: By 2021, complete drawdowns of all Refuge pools during the summer growing season in cooperation with the Corps of Engineers and the state.

Rationale: Lowering the water levels in impoundments during the growing season is a proven management practice to dramatically increase emergent vegetation. Improved vegetation results in more food and cover for a wide range of fish and wildlife species. 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. All pools would benefit from drawdowns. However, Pool 14 does not appear to be feasible in the 15-year horizon of this plan.

Strategies

- # Continue to work in partnership with the interagency water level management taskforce to plan and facilitate drawdowns.
- # Inform and involve citizens through public meetings, workshops, and citizen advisory groups.
- # Seek all available funding sources to carry out needed recreational access dredging to lessen social and economic impacts during drawdowns (proposals in Corps of Engineers Navigation Study released in 2004 includes funding for drawdowns).

Objective 2.3:

Invasive Plants: Each year, conduct at least one biological control effort on purple loosestrife and/or leafy spurge on each District of the Refuge, and continue ongoing education and outreach efforts on the effects of invasive plants.

Rationale: This objective represents the current program of invasive plant control by the Refuge due to the restraints of funding for invasive plant work. Biological control consists of 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. Biological control methods are not yet readily available for other invasive plant species. Education and outreach is ongoing as a part of regular displays, programs, and media work.

Strategies

- # 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.
- # Take advantage of periodic invasive species grants, cost-sharing, or special funding opportunities offered through the Service or other agencies and foundations.
- # Continue to provide information and education to the public through the media, brochures, signage, and programs.

Objective 2.4:

Invasive Animals: Continue ongoing information and education efforts on the issue of invasive animal species and their impact on the resources of the Refuge.

Rationale: This objective represents the current direction of the Refuge in regards to invasive animals and is difficult to measure and minimal at best. It represents basic limitations of resources, but perhaps just as important, 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.

Strategies

- # Continue to support the efforts of other agencies and groups in the monitoring, research, and control of invasive animals.
- # Continue to provide information and education to the public through the media, brochures, signage, and programs

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, implement at least 30 percent of the Refuge-priority Environmental Pool Plan actions and strategies in Pools 4-14 as summarized in Table 4 on page 196 at the end of this Chapter (see Appendix N 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. 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 4 on page 196. 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

- # 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.
- # Continue to work for full and expanded funding of the Environmental Management Program through public and Congressional information and outreach.
- # Take advantage of any new funding sources that emerge, such as appropriations from Congress for implementing the Navigation Study ecosystem restoration recommendations.

Objective 3.2.

Guiding Principles for Habitat Management Programs: Do not adopt any formal guiding principles for habitat management programs.

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 will design projects. Formal guiding principles do not now exist, so not adopting any represents no action. However, the Refuge would continue to rely on existing goals, objectives, and policies in seeking projects that benefit a diversity of fish and wildlife while taking into account public use needs and issues.

Strategies

- # None warranted for this alternative.

Objective 3.3.

Monitor and Investigate Fish and Wildlife Populations and Their Habitats: Continue yearly monitoring of aquatic invertebrates, submerged aquatic vegetation, waterfowl, colonial nesting birds, bitterns and rails, breeding songbirds, Bald Eagle nesting, and frogs and toads in accordance with the 1993 Wildlife Inventory Plan.

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 planning habitat management and public use programs. This objective represents a modest or “sampler” inventory program, using standardized protocols, in line with current funding and staffing levels. It is also skewed toward migratory birds and their aquatic foods in keeping with the federal responsibilities for these species. The Refuge would continue to rely on monitoring done by 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

- # Review and amend as needed the Wildlife Inventory Plan to ensure the latest protocols are being followed, but do not expand species or habitats being monitored.
- # Continue to work with the states, U.S. Geological Survey, and Corps of Engineers in the sharing of data on other species and habitats.
- # Continue to use volunteers for certain monitoring efforts such as the breeding bird survey point counts.
- # Complete a Habitat Management Plan which integrates species status and trends with the Environmental Pool Plans (Objective 3.1).

Objective 3.4.

Threatened and Endangered Species Management: Continue ongoing protection of federally listed threatened, endangered and candidate species and conduct yearly survey of bald eagle nesting.

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 the continuation of a minimum threatened and endangered species program, mainly through the protection of habitat and review and consultation of management actions in light of possible impacts to these species. The only species actively monitored by the Refuge are bald eagles due to public interest and their symbolic stature.

Strategies

- # Consider the needs of threatened, endangered and candidate species in all habitat and public use management decisions.
- # Continue to consult with the Service's Ecological Services Offices on all actions which may affect listed species.
- # Continue monitoring bald eagle nesting populations and success.
- # Continue assistance to other offices and agencies with Higgins eye pearl mussel recovery efforts.

Objective 3.5.

Furbearer Trapping: Update the Refuge trapping plan by June 2007, continuing the existing trapping program until the update is completed.

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. 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

- # The Refuge wildlife biologists, in consultation with Refuge district managers and state furbearer biologists, will develop a revised trapping plan for approval by the Refuge manager.
- # Afford the public an opportunity for review and comment on the plan.

- # Complete a new compatibility determination for public review and comment.

Objective 3.6.

Fishery and Mussel Management: Continue to defer fishery and mussel management on the Refuge to the states and the Service’s Fishery Resource Office in La Crosse, Wisconsin.

Rationale: This objective reflects the current and projected Refuge involvement in fishery and mussel management given current funding and staffing restraints.

Strategies

- # Continue to gather information from state and other Service offices on the status of fish and mussels on the Refuge.
- # Rely on fisheries status and trends provided by the Long Term Resource Monitoring Program of the Environmental Management Program administered by the Corps of Engineers.

Objective 3.7.

Commercial Fishing and Clamming: Continue to defer to state departments of natural resources to monitor, regulate, and permit commercial fishing and clamming.

Rationale: This objective reflects the current and projected Refuge involvement in commercial fishing and mussel harvest given current funding and staffing restraints.

Strategies

- # Continue to gather information from the states and the Upper Mississippi River Conservation Committee on harvest levels.
- # Conduct license and permit compliance on an opportunistic basis during routine Refuge law enforcement efforts.

Objective 3.8.

Turtle Management: Continue to cooperate with state departments of natural resources and the Corps of Engineers in monitoring turtle populations on certain Refuge areas, but continue to defer to the states on commercial harvest management of certain turtle species.

Rationale: This objective reflects the current and projected Refuge involvement in turtle management and harvest given current funding and staffing restraints. The Refuge has contributed funds and staff to monitoring and study efforts, but availability is unpredictable from year to year.

Strategies

- # Work in partnership with the states and Corps of Engineers on monitoring and research efforts for turtles.
- # Seek funding for research into turtle ecology and population status through grants.
- # Increase public awareness of the importance of the Refuge and river to turtles.
- # Consider the needs of turtles in habitat and public use planning and projects.

Objective 3.9. Forest Management: Complete by the end of 2008, in cooperation with the Corps of Engineers, a forest inventory of 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 of Engineers-acquired lands, and it makes fiscal and efficiency sense to partner with the Corps of Engineers on this objective.

Strategies

- # As Refuge funding allows, continue to fund seasonal technicians to help with the Corps of Engineers' inventory project on Service-acquired lands.
- # Continue to work with the Corps of Engineers and other partners on forest rejuvenation and research projects.
- # Continue small scale reforestation, especially mast-producing hardwoods, on suitable Refuge lands.

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.

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. Active management is needed to curb loss of grasslands to forest succession or invasive species, and to maintain species diversity and health.

Strategies

- # Implement the Refuge's Fire Management Plan.
- # Use haying, rotational grazing, and control of invasive plants as appropriate to maintain grasslands.
- # Restore native prairie where feasible using a combination of rest, fire, farming, and reseeding as appropriate to the site.
- #

Goal 4: Wildlife-Dependent Recreation. We will manage public use 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 192,219 acres (80.0 percent) of land and water of the Refuge open to all hunting in accordance with respective state seasons, and make no changes to the current 8 administrative No Hunting Zones (3,555 acres). (See Table 2 and Table 7 in Appendix H and maps in Appendix P)

Rationale: This objective represents the current areas open to hunting during all respective state seasons. In addition, Waterfowl Closed Areas re-open to some hunting after the duck season. Administrative No Hunting Zones are generally closed year-round to hunting for visitor safety or to

reduce user conflict. No change represents the no action or current direction of this alternative. Hunting 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.

Strategies

- # Continue yearly review of Refuge Hunting Regulations to ensure clarity and to address any emerging issues or concerns, and give public opportunity to review and comment on any changes.
- # Continue to publish the Refuge Hunting Regulations brochure to inform the public of hunting opportunities and Refuge-specific regulations.
- # Continue to improve the hunting experience by ongoing improvements to habitat and enforcement of regulations.
- # Review the 1989 Refuge Hunting Plan and modify as needed to comply with new regulations and policies.

Objective 4.2.

Waterfowl Hunting Closed Areas: Continue current system of 14 Closed Areas (40,858 acres) and 1 Sanctuary Area (3,686 acres) and current regulations, but make boundary adjustments to clarify boundary or address operation and maintenance needs. (See Table 5 on page 208 and maps, Appendix P.)

Rationale: Closed Areas are designed to provide relatively undisturbed fall resting and feeding areas for the length of the Refuge, and to more evenly distribute waterfowl hunting opportunities. This objective represents the current direction of the Closed Area system. Minor boundary adjustments have been made to some areas over the years and are needed periodically to address physical changes in the environment (such as island erosion) and to reduce confusion or annual signing concerns.

Strategies

- # Improve habitat in Closed Areas by ongoing programs such as pool drawdowns, Environmental Management Program projects, and other agency initiatives and regulations.
- # Continue Voluntary Avoidance Area program for the Lake Onalaska (Pool 7) closed area, and seek to expand to other Closed Areas where feasible.
- # Continue to monitor waterfowl use of closed areas through weekly aerial surveys in the fall.
- # As funding allows, monitor frequency and effect of disturbance by commercial, public, and agency entry into Closed Areas.

Objective 4.3

Waterfowl Hunting Regulation Changes: Make no major changes to current Refuge-specific regulations governing the means and methods of waterfowl hunting on the Refuge (see Appendix I for current regulations).

Rationale: This objective represents the current direction of waterfowl hunting regulations on the Refuge, recognizing that periodic minor changes are needed to clarify language, or to address an emerging issue or changes in state regulations. These minor changes are published in the Federal Register for public review and comment prior to implementation.

Strategies

- # Continue to publish and distribute the Refuge Hunting Regulations brochure.
- # Issue news releases to local media in the event any minor changes are to be published in the Federal Register since most of the interested public is not aware of, or has access to, the Federal Register.

Objective 4.4.

Firing Line – Pool 7, Lake Onalaska: Make no changes in boundaries or methods of hunting that would affect the waterfowl hunting fire line that has developed at the north end of the Pool 7 Closed Area (“The Barrels”). (See map, Appendix P, La Crosse District.)

Rationale: This objective represents the no action alternative to address hunter behavior issues and crippling losses from long-range pass shooting at waterfowl.

Strategies

- # Continue to educate the waterfowl hunting public about the issues and seek self-regulation of behavior.
- # Work with the La Crosse County Conservation Alliance and other conservation organizations in the education effort.
- # Increase law enforcement presence and contacts in the Barrels Area and more aggressively enforce violations.

Objective 4.5.

Permanent Hunting Blinds on Savanna District: Continue allowing permanent waterfowl hunting blinds on the Savanna District. (See maps, Appendix P, Savanna District.)

Rationale: This objective represents taking no action on issues surrounding the use of permanent blinds at the Savanna District. These issues include unsafe and unsightly debris, private exclusive use of public lands, conflicts between users, reduction in overall hunting opportunity, and inconsistency with regulations on other districts of the Refuge.

Strategies

- # Continue to educate the waterfowl hunting public about the issues and seek self-regulation of behavior.
- # Work with local and area waterfowl conservation organizations on the education effort.
- # Increase law enforcement presence and contacts to ensure compliance with regulations governing blind use.

Objective 4.6.

Potter’s Marsh Managed Hunt on Savanna District: Continue current Potter’s Marsh Managed Hunt with permanent blinds, but implement the following application and drawing changes: (See Table 17 in Appendix H and maps in Appendix P, Pool 13.)

- 1.) Accept applications and hold drawing for blind area on same day, generally on a Saturday in July.
- 2.) Applicant must be present at drawing.

- 3.) Applicant must have current Firearm Owners Identification if Illinois resident and current year license and state and federal duck stamps.
- 4.) Applicants must be 16 years of age by date of drawing.
- 5.) Applications accepted 10 a.m. to 2 p.m. with drawing at 2 p.m.
- 6.) Successful applicant receives blind site for entire season.
- 7.) Application fee \$10 plus \$100 fee for successful applicants.

Rationale: Allowing the continued use of permanent blinds for this hunt represents the no action alternative. However, reducing staff time and administrative costs, while making the drawing process more equitable, makes good management sense and represents the current direction.

Strategies

- # Continue to educate the waterfowl hunting public about the issues and seek self-regulation of behavior in regard to permanent blind use with this hunt.
- # Work with local and area waterfowl conservation organizations on the education effort.
- # Increase law enforcement presence and contacts to ensure compliance with regulations governing the hunt.
- # Ensure that information on administrative changes is provided to the public well in advance of changes.

Objective 4.7.

Blanding Landing Managed Hunt: Continue the current program and administrative procedures (drawing for permanent blinds) for the Blanding Landing Managed Hunt on the Lost Mound Unit, Savanna District. (See Table 17 in Appendix H and maps, Appendix P, Pool 12.)

Rationale: This hunt is managed by the Illinois Department of Natural Resources on the former Savanna Army Depot. This area has now been transferred to the Refuge as part of the Lost Mound Unit. This objective represents no action from the current managed hunt, namely use of permanent blinds and a yearly drawing for limited blind locations.

Strategies

- # Continue to educate the waterfowl hunting public about the issues and seek self-regulation of behavior in regard to permanent blind use with this hunt.
- # Work with local and area waterfowl conservation organizations on the education effort.
- # Increase law enforcement presence and contacts to ensure compliance with regulations governing the hunt.
- # Ensure that information on the change of hunt administration from the Illinois Department of Natural Resources to the Refuge is made available to the public, along with any Refuge-specific regulations that apply.
- # Use news releases and other means to disseminate information.

Objective 4.8

General Fishing: Provide and enhance year-round fishing on 140,545 acres of surface water within the Refuge, and an additional 2,736 acres in Waterfowl Closed Areas (Spring Lake, Pool 13) in spring, summer, and winter. (Note: Iowa, Wisconsin, and Illinois regulations maintain fish “refuges” below lock and dams 11,12, and 13, December 1 through March 15). Maintain 15 accessible fishing piers or docks. (Table 7 and Table 14 in Appendix H and maps, Appendix P)

Rationale: This objective represents the current areas available and open to fishing and the area currently closed to fishing from October 1 to the end of the duck hunting season to limit disturbance to waterfowl (Spring Lake, Pool 13). 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. Maintaining the existing 14 accessible fishing piers assumes continued funding for staff and maintenance.

Strategies

- # Enhance fishing opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
- # Continue to promote fishing through Fishing Days and other outreach and educational programming.
- # Cooperate with the states in their ongoing fishery management programs.
- # Schedule yearly inspection and maintenance of fishing piers.

Objective 4.9.

Fishing Tournaments: Continue current “hands-off” approach to regulating fishing tournaments on the Refuge, deferring to the individual state’s permit procedures and regulations (and Corps of Engineers for Corps of Engineers-managed landings used for tournaments).

Rationale: This objective represents the no action or current direction alternative on the issue of Refuge involvement in fishing tournament permits and oversight.

Strategies

- # None since there is no action under this alternative.

Objective 4.10.

Wildlife Observation and Photography: Maintain the following existing facilities to foster wildlife observation and photography opportunities: 15 observation decks and areas, 6 hiking trails, 4 canoe trails, 3 biking trails, and 1 auto tour route. (See Table 3, Table 4, Table 5, Table 15 and Table 19 in Appendix H and maps, Appendix P)

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 the current direction of the wildlife observation and photography program on the Refuge and assumes continuing funding and staffing for operations and maintenance.

Strategies

- # Schedule annual inspection and maintenance of the facilities.
- # Ensure adequate signing and information in brochures, websites, and maps so the public is aware of the facilities.
- # Continue to promote the wildlife observation and photography opportunities of the Refuge through public education, outreach, special programs, and partnerships with the states, Corps of Engineers and private conservation groups.
- # Enhance observation and photography opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.

Objective 4.11.

Interpretation and Environmental Education: Maintain and update 59 interpretive signs (see Table 16 in Appendix H, and maps in Appendix P for details). Continue to print and distribute Refuge General Brochure, and update websites quarterly. Continue to sponsor at least one major annual interpretive event on each Refuge District, and continue environmental education efforts at Districts with visitor services staff (Savanna and La Crosse).

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 the current interpretation and environmental education program on the Refuge, a level which is expected to continue. Environmental education is labor intensive since it is curriculum-based, so efforts are generally limited to those Districts with public use staff.

Strategies

- # Participate in national interpretive events such as National Wildlife Refuge Week or Migratory Bird Day for efficiency and effectiveness.
- # Schedule quarterly review of kiosks and interpretive signs and conduct maintenance and sign replacement as needed.
- # 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.

Objective 4.12.

Commercial Fish Floats: Continue to permit 4 commercial fish floats or floating piers below locks and dams and make no major changes to current fee schedule and permit stipulations. (See Table 12 in Appendix H and maps, Appendix P.)

Rationale: This objective represents the current and long-standing low-key management and administration of commercial fishing floats on the Refuge. Fishing floats remain very popular with a segment of the public which does not own boats or desires not to use boats below the locks and dams. The floats help provide fishing opportunities for young and old, able or less able, and facilitate one of the priority public uses of the Refuge System. The floats also provide economic benefit to the owners/operators and an economic stimulus for nearby businesses.

Strategies

- # Continue yearly coordination meeting with float owners and operators to address concerns and permit conditions.
- # Continue enforcement of permit stipulations and suspend permits of those operations not meeting the stipulations.
- # Inspect facilities for safety at least once yearly.

Objective 4.13.

Guiding Services: Continue inconsistent, low-key approach to issuing permits for commercial hunting, fishing, and wildlife observation guiding.

Rationale: This objective represents the no action or current direction alternative for this use.

Strategies

- # Continue to defer to the states for any licensing or regulatory oversight.
- # Continue to ignore or apply haphazardly Refuge System regulations governing commercial uses on national wildlife refuges.

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: Continue current open policy for beach-related uses such as camping, mooring, picnicking, and social gatherings in accordance with existing public use regulations (see Appendix J). Continue to use the following interim beach maintenance criteria when requests are made for beach maintenance:

- 1.) Only on beach areas classified as low-density recreation on Land Use Allocation Plans.
- 2.) Only on former or existing dredge material disposal sites.
- 3.) No maintenance on active dredge disposal sites (including sites recently emptied, known locally as “bathtubs”).
- 4.) No maintenance of beaches in Waterfowl Hunting Closed Areas.
- 5.) Time maintenance work to lessen impacts to turtles and other wildlife.

Rationale: This objective represents the no action or current direction alternative that was set in the 1987 Master Plan. Interim beach maintenance criteria were developed in response to work in Pool 4 in cooperation with the Wisconsin Department of Natural Resources in 2003 using Wisconsin recreation boating fuel tax revenues.

Strategies

- # Continue to coordinate with the states and the Corps of Engineers through established interagency workgroups such as the Recreation Workgroup of the River Resources Forum.
- # Complete beach inventory for all Districts and use information for interagency beach planning effort.
- # Continue to use the principles and components of the “Leave No Trace” program.
- # Continue to print and distribute Refuge Public Use Regulations, and continue law enforcement effort to address visitor behavior and physical impacts associated with beach-related uses.

Objective 5.2.

Electric Motor Areas: Maintain the one current electric motor area of 222 acres (Mertes Slough, Pool 6, Winona District). (See Table 13 in Appendix H, and maps, Appendix P)

Rationale: The Mertes Slough electric motor area was established to protect from disturbance the northernmost heron rookery on the Refuge. Entry into the area by personal watercraft had become more common due to the proximity to Winona, Minnesota and other non-Refuge recreation sites.

Strategies

- # Continue to inform the public of this electric motor area by signing and providing information at the Mertes Slough boat landing.
- # Continue to conduct periodic enforcement of the restriction.

Objective 5.3.

Slow, No-Wake Zones: Maintain the 2 existing Refuge-administered slow, no-wake zones and assist local or other units of government in the enforcement of 44 other slow, no-wake zones. (See Table 18, Appendix H, and maps, Appendix P)

Rationale: This objective represents the current number of slow, no-wake zones on the Refuge. The zones were established for safety at high congestion areas or in narrow, blind corner channels, or to lessen the amount of shoreline erosion from boat wakes.

Strategies

- # Continue to inform the public of the slow, no wake areas through seasonal buoy placement and signing as appropriate.
- # Continue to conduct periodic enforcement of the slow, no-wake restriction.
- # Continue to cooperate and coordinate with local units of government which establish most slow, no wake zones.

Objective 5.4.

Dog Use Policy: Continue to use the current domestic animal regulation which says that “unconfined domestic animals are prohibited on the Refuge, except for controlled hunting and retrieving dogs during the hunting season.” The current prohibition of dog field trials or training of dogs would also remain in effect.

Rationale: This alternative reflects no action in regards to the regulation governing the use of dogs and other domestic animals on the Refuge. Unless specifically authorized, national wildlife refuges are closed to dogs, cats, livestock and other animals per federal regulations. Domestic animals can harass and kill wildlife, and at times become a perceived or direct threat to other persons engaged in recreation.

Strategies

- # Refuge law enforcement officers will continue to use discretion in enforcing this regulation due to the ambiguity inherent in the meaning of the word “confined.”

Objective 5.5.

General Public Use Regulations: Make no changes to current general public use regulations governing entry and use of the Refuge, as outlined in Appendix J.

Rationale: This objective represents the no action alternative. As a unit of the Refuge System, the current regulations governing entry, use, and prohibited acts of the Refuge are adopted from Title 50, Code of Federal Regulations, Parts 26-28. Over the years, Refuge-specific regulations have been adopted to reflect special circumstances or address unique problems.

Strategies

- # Continue to print and distribute the Public Use Regulations brochure.
- # Post pertinent regulations at boat landings and other public use areas, such as trail heads and beach areas.
- # Continue proactive law enforcement to inform and educate the public on Refuge regulations and to seek their compliance.
- # Annually review Refuge regulations and clarify language as needed.

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, Shop and Visitor Contact Facilities: Maintain existing offices (6) and shops (5), and replace the Winona District and Savanna District shops by 2006.

Rationale: This objective represents the no action or current direction for providing office space and maintenance facilities for Refuge Headquarters, the four District Offices, and the Lost Mound Unit. Three of the offices and 4 of the shops are Service-owned, 2 are government-leased, and the Lost Mound office and shop is used by agreement with Department of the Army. The Headquarters and Winona District currently share the same building for offices, and share a shop. The Savanna, Lost Mound, McGregor, and La Crosse offices also have modest visitor reception areas with exhibits and other information. Replacement of the Winona and Savanna District shops is currently in the planning stage and they should be replaced by 2006, dependent on funding through the Service’s Maintenance Management System. The existing offices are needed due to the size and length of the Refuge and for effectiveness and efficiency of management, administration, and public service.

Strategies

- # Continue to maintain Service-owned facilities using annual maintenance budget allocations.
- # 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.
- # Ensure that office needs are reflected in Refuge System needs databases.

Objective 6.2.

Public Access Facilities: Maintain and modernize as needed, 25 public boat accesses on the Refuge. (See Table 1 in Appendix H, and maps, Appendix P.)

Rationale: This objective represents the current number of boat accesses on the Refuge that are maintained by Refuge staff. In addition to these accesses, there are 222 other public and private boat accesses that provide access to the Mississippi River or its tributaries, and thus the Refuge.

Strategies

- # Continue routine upkeep of boat accesses by Refuge staff, temporary employees and Youth Conservation Corps members when available, and volunteers.
- # Continue to modernize accesses using Maintenance Management System funding or special funding which is provided periodically.
- # In cooperation with states and local governments, explore Transportation Enhancement Act projects and funding to upgrade 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 funding needs for carrying out the current direction alternative.

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.

Strategies

- # None warranted.

Objective 6.4.

Public Information and Awareness: Continue current annual average of 80 media interviews, 125 news releases, and 25 special events (special programs, presentations, and displays at others' events) to maintain current levels of public awareness of the Refuge, and its purpose, programs, and challenges. Maintain existing 66 information kiosks.

Rationale: Keeping the public aware of the Refuge and its purpose, programs, and challenges is a basic part of public lands stewardship. An informed public can not only take advantage of the recreation afforded by the

Refuge, but can play a role in influencing and shaping management direction and the challenges which face the Refuge. This objective reflects a relatively high level of continuous effort despite a limited number of visitor services staff.

Strategies

- # Continue to make public information and awareness a part of all employees positions.
- # Continue to look for creative ways to leverage efforts and funding for public information.
- # Carry out related objectives dealing with trails, kiosks, leaflets, and interpretive signs.
- # 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: Maintain current permanent, full-time staffing of 37 people. (See Table 20 in Appendix H.)

Rationale: This objective reflects the no action or current direction alternative. Like all land management, refuge management is labor intensive and labor costs represent over 95 percent of the base operations funding received each year. Thus, staffing levels are tied to budget appropriations from Congress and budget allocations from the national and regional offices of the Service and could remain the same or go down under this alternative.

Strategies

- # Continue to evaluate current staffing patterns at the District and Headquarters level to ensure that personnel are assigned to the greatest resource and public service needs.
- # Maintain other sources of funding for staff who coordinate the Environmental Management Program and the Partners for Fish and Wildlife Program.

2.4.3 Alternative B: Wildlife Focus

Increase level of effort on fish and wildlife and habitat management. Some public use opportunities and programs would remain the same, others reduced in favor of wildlife and habitat protection.

Alternative B Summary

Boundary issues would be aggressively addressed and the entire Refuge boundary would be surveyed. The rate of land acquisition within the approved boundary would increase to complete 58 percent of the total, an average of 1,000 acres per year. All bluffland areas identified in the 1987 Master Plan would be protected by fee-title acquisition or easement, and there would be an increase in oversight and administration of Research Natural Areas. Guiding principles for habitat projects would be established.

There would be an increase in efforts to achieve continuous improvement in the quality of water flowing through the Refuge, including decreasing sedimentation. Pool-scale drawdowns would be accomplished by working with the Corps of Engineers and the states. Control of invasive plant species would increase, and there would be increased emphasis on the control of invasive animals. Environmental Pool Plans would be implemented on a strategic and opportunistic basis using the

Environmental Management Program or other programs and funding sources. Wildlife inventory and monitoring would increase and include more species groups beyond the current focus of waterfowl, colonial nesting birds, eagles, and aquatic invertebrates/vegetation. Management of threatened and endangered species would focus on helping recovery, not just protection. The furbearer trapping program would continue but be brought into compliance with policies by writing a new plan. The Refuge would become much more active in fishery and mussel management, and provide commercial fishing oversight. The knowledge of turtle ecology would be increased through research, and there would be continued cooperation with the states and Corps of Engineers on turtle conservation efforts. A forest inventory on the Refuge would be completed in cooperation with the Corps of Engineers, leading to completion of a forest management plan and more active forest management. The existing 5,700 acres of grassland habitat on the Refuge would be maintained and enhanced using fire and other tools.



Common Egret. Copyright Sanda Lines

Hunting and fishing opportunities would continue on a large percentage of the Refuge. The system of waterfowl hunting closed areas would increase substantially with 14 new areas. Entry into closed areas would be prohibited during the respective state duck season, although the voluntary avoidance area on Lake Onalaska would remain in place. The firing line issue north of the closed area in Lake Onalaska would be addressed by expanding the closed area northward. Current Refuge-wide hunting regulations would be changed to include a 25 shotshell limit during the waterfowl season and to address open water hunting in portions of Pools 9 and 11. Permanent blinds for waterfowl hunting would be eliminated Refuge wide, including those used in the Potter's Marsh and Blanding Landing managed hunts in the Savanna District. The Potter's Marsh managed hunt would

continue with administrative changes to promote fairness and efficiency. The Blanding Landing managed hunt would be eliminated, but the area would remain open to hunting. General fishing would continue to be promoted, although the Refuge would begin oversight of fishing tournaments in cooperation with the states and other agencies.

There would be no increase in facilities or programming for wildlife observation, photography, interpretation and environmental education. There would be a modest increase in Refuge access through improvement of existing boat ramps, pull offs, and overlooks, and a boat launch fee would be initiated at Refuge-operated boat ramps. Commercial fish floats or piers below locks and dams 6, 7, 8, and 9 would be eliminated to reduce administrative and oversight costs. Commercial guiding on the Refuge would be prohibited. Areas open to beach-related public use (camping, swimming, picnicking, social gatherings) would be reduced under a "closed-until-open" policy, and beach planning and maintenance would not be allowed on Refuge lands. A total of 10 electric motor areas and 9 new slow, no-wake zones would be established. Current regulations on use of dogs would be changed to require that dogs and other domestic animals be leashed at all times except when used for hunting. General public use regulations would be reviewed annually and changed as needed. Existing offices would be maintained, but new maintenance facilities or shops would be constructed at the Winona, McGregor, and Savanna districts, and eventually, at the Lost Mound Unit. Public information and awareness efforts would be decreased 50 percent to focus on wildlife-related work. Staffing levels for the Refuge would increase by 17.5 full-time equivalents with the priority being biologists, a forester, other specialists, and maintenance persons.

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 with the Corps of Engineers, re-survey and post the entire Refuge boundary 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, 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.

Strategies

- # Enter into a joint Service/Corps of Engineers project to complete a cadastral survey of the Refuge boundary.
- # With the Corps of Engineers, complete a plan of action to prioritize and schedule the completion of the survey by 2020. Seek the funding necessary for the survey work.
- # Also with the Corps of Engineers, review, update, and publish a new Land Use Allocation Plan for lands within the Refuge (see Chapter 1, section 1.4.3.1 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 (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. On a narrow, linear refuge, land acquisition is a critical component of restoring the habitat connectivity needed for the health of many species. The Refuge currently ranks 6th 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 and waters most important to fish and wildlife would be the highest priority acquisitions in keeping with the wildlife focus of this alternative. 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.

Strategies

- # Seek consistent Land and Water Conservation Fund appropriations to meet the objective (approximately \$1.5 million per year at \$1,500 per acre).

- # Explore land exchanges with the states to remove intermingled ownerships.
- # 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, Appendix G.)

Rationale: There have been no acquisitions of bluffland areas since first identified in the 1987 Master Plan, and this objective represents a more aggressive approach to safeguarding the wildlife values of these areas. In recent years, peregrines 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.

Strategies

- # Seek consistent acquisition funding as noted in Objective 1.2 and favor easements over fee-title acquisition since it is more cost-effective for a wildlife focus approach.
- # Work with the state, local governments, and private land trusts to protect bluffland habitat and scenic values.
- # Work with local units of government to encourage zoning regulations which protect bluffland scenic qualities.
- # Help 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, Appendix P and Table 7.)

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

Strategies

- # District Managers will be responsible for completion of a management plan for natural areas in their District, using a consistent approach and format and in cooperation with the states and other federal agencies as appropriate (e.g., Nelson-Trevino).
- # Seek cooperative research and monitoring opportunities with other agencies and colleges and universities.
- # Ensure yearly reviews of Research Natural Area boundaries to ensure integrity of the areas.

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 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

- # 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.
- # Increase conservation assistance agreements with Soil and Water Conservation Districts and Resource Conservation and Development boards.
- # Cooperate with local government land use planning efforts to ensure that water quality impacts to the Refuge are considered.
- # Emphasize water quality aspects, especially sediment deposit in backwaters, in all habitat enhancement projects.
- # Link the planning and projects for tributary watersheds to Pool Plan implementation using the latest GIS-based mapping and modeling. Support cooperative water quality monitoring and improvement efforts through the Upper Mississippi River Conservation Committee and other groups and agencies.
- # Continue to stress the importance of water quality in public information and interpretive and education programs.

Objective 2.2.

Water Level Management: By 2021, complete drawdowns of all Refuge pools during the summer growing season in cooperation with the Corps of Engineers and the state.

Rationale: Lowering the water levels in impoundments during the growing season is a proven management practice to dramatically increase emergent vegetation. Improved vegetation results in more food and cover for a wide range of fish and wildlife species. 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. All pools would benefit from drawdowns. However, Pool 14 does not appear to be feasible in the 15-year horizon of this plan.

Strategies

- # Continue to work in partnership with the interagency water level management taskforce to plan and facilitate drawdowns.
- # Inform and involve citizens through public meetings, workshops, and citizen advisory groups.
- # Seek all available funding sources to carry out needed recreational access dredging to lessen social and economic impacts during drawdowns (proposals in Corps of Engineers Navigation Study released in 2004 includes funding for drawdowns).
- # Explore options for funding an Access Trust Fund to ensure adequate funding when needed to accomplish drawdowns.

Objective 2.3.

Invasive Plants: By 2008, complete an invasive plant inventory and 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. This objective addresses this threat by first determining and mapping baseline information on invasive plants so that effective and efficient 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

- # Hire seasonal biological technicians to conduct an inventory and prepare baseline maps of invasive plant infestations.
- # Write an invasive plant control and management plan (integrated pest management plan) that identifies priority areas and methods of control.

- # Seek seasonal staff and funding to accelerate current control and applied research efforts through interagency partnerships, volunteer programs, and public education.
- # 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.
- # Take advantage of periodic invasive grant, cost-sharing, or special funding opportunities offered through the Service or other agencies and foundations.
- # 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. 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

- # Implement other objectives and strategies in this plan which have an influence on invasive species work. For example, better habitat conditions promote healthy native fish populations which 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.
- # Continue to work with other agencies in developing effective regulations, barriers, biological controls, or other means to reduce introduction and spread of invasives.
- # Explore new and creative ways to expand the harvest of invasive fish by commercial fishing, such as a bonus payment to enhance market price.
- # 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, implement at least 30 percent of the Refuge-priority Environmental Pool Plan actions and strategies in Pools 4-14 as summarized in Table 4 on page 196 at the end of this Chapter (see Appendix N 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, and thus, this objective represents an important part of the wildlife 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 4. 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

- # 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.
- # Continue to work for full and expanded funding of the Environmental Management Program through public and Congressional information and outreach.
- # Take advantage of any new funding sources that emerge, such as appropriations from Congress for implementing the Navigation Study ecosystem restoration recommendations.

Objective 3.2.

Guiding Principles for Habitat Management Programs: Upon approval of the CCP, adopt and use the following guiding principles when designing or providing input to design and construction of habitat enhancement projects:

- 1.) Management practices will restore or mimic natural ecosystem processes or functions to promote a diversity of habitat and minimize operations and maintenance costs.
- 2.) Maintenance and operation costs of projects will be weighed carefully since annual budgets for these items are not guaranteed.
- 3.) 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.
- 4.) 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.

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 will design 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

- # 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.

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 planning habitat management and public use programs. This objective represents a more aggressive biological program on the Refuge in line with a true wildlife focus, 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 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

- # Engage other experts and partners to develop and implement the Wildlife Inventory Plan.
- # 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.
- # Continue to work with the states, U.S. Geological Survey, and Corps of Engineers in the sharing of data on other species and habitats.
- # Establish a schedule of formal coordination meetings with the U.S. Geological Survey to share biological monitoring methods and data.
- # Ensure that each District has a biologist on staff and that Headquarters has a GIS biologist.
- # Seek more cooperation with colleges and universities to foster more graduate research projects.
- # Continue to use volunteers for certain monitoring efforts such as the breeding bird survey point counts.
- # Complete a Habitat Management Plan which integrates species status and trends with the Environmental Pool Plans (Objective 3.1).

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 help ensure their recovery.

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. 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 Sheepsnose mussel.

Strategies

- # Consider the needs of threatened, endangered and candidate species in all habitat and public use management decisions.
- # Continue to consult with the Service's Ecological Services Offices on all actions which may affect listed species.
- # In Wildlife Inventory Plan, address monitoring plan for all listed or candidate species, and other species of management concern to help preclude listing.
- # Continue monitoring bald eagle nesting populations and success.
- # In 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. Give priority to acquisition of lands within approved boundary that contain listed or candidate species.
- # Continue assistance to other offices and agencies with Higgins eye pearl mussel recovery efforts.

Objective 3.5.

Furbearer Trapping: Update the Refuge trapping plan by June 2007, continuing the existing trapping program until the update is completed.

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. 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

- # The Refuge wildlife biologists, in consultation with Refuge District managers and state furbearer biologists will develop a revised trapping plan for approval by the Refuge manager.
- # Afford the public an opportunity for review and comment on the plan.
- # Complete a new compatibility determination for public review and comment.

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 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.

Strategies

- # Add a fishery biologist to the Headquarters staff to coordinate fishery and mussel management on the Refuge.
- # 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 2009, begin issuing Refuge special use permits in addition to state-required permits for commercial fishing and clamming.

Rationale: The Refuge has provided little to no oversight of the commercial harvest of fish or mussels in the past. 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.

Strategies

- # 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.
- # Devise a Refuge permitting process that dovetails with state permits so that commercial users receive only one permit versus two.
- # Enter into cooperative agreements as needed to implement this one-stop-shopping permit process.
- # 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).

Objective 3.8.

Turtle Management: By spring, 2007, initiate a 3-5 year turtle ecology study on representative habitats of the entire Refuge. Continue to cooperate with

the states 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 8 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 to guide a coordinated approach to their conservation. A comprehensive study would provide this information.

Strategies

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

Strategies

- # As Refuge funding allows, continue to fund seasonal technicians to help with the Corps of Engineers' inventory project on Service-acquired lands.

- # Continue to work with the Corps of Engineers and other partners on forest rejuvenation and research projects.
- # Continue small scale reforestation, especially mast-producing hardwoods, on suitable Refuge lands.
- # 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, and by 2008, 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. Active management is needed to curb loss of grasslands to forest succession or invasive species, and to maintain species diversity and health.

Strategies

- # Implement the Refuge's Fire Management Plan.
- # Use haying, rotational grazing, and control of invasive plants as appropriate to maintain grasslands.
- # Restore native prairie where feasible using a combination of rest, fire, farming, and reseeding as appropriate to the site.
- # 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 165,524 acres (69 percent) of land and water of the Refuge open to all hunting in accordance with respective state seasons, and add two new administrative No Hunting Zones for a total of 3,813 acres. See related Objective 4.2 on Waterfowl Closed Areas (See tables, Appendix H and maps, Appendix N.)

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 a wildlife emphasis by increasing the number of Waterfowl Closed Areas in the related Objective 4.2. These Closed Areas reopen to some hunting after the duck season, adding to the open acreage above. The two new No Hunting Zones are for safety reasons or to minimize conflict between user groups. One is at Sturgeon Slough, Pool 10 (66 acres), which contains a fairly new hiking trail off a major highway, and the other is at Crooked Slough proper, Pool 13 (192 acres) to avoid conflicts and address safety concerns in a relatively narrow corridor popular with anglers.

Strategies

- # 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.
- # Continue to publish the Refuge Hunting Regulations brochure to inform the public of hunting opportunities and Refuge-specific regulations.
- # Continue to improve the hunting experience by ongoing improvements to habitat and enforcement of regulations.
- # Review the 1989 Refuge Hunting Plan and modify as needed to comply with new regulations and policies.
- # Clearly sign areas closed to hunting and ensure public notification through news releases and other means well before the hunting seasons.

Objective 4.2.

Waterfowl Hunting Closed Areas: In fall 2006, implement the following changes to the current Waterfowl Closed Area system on the Refuge:

- 1.) Add 14 new Closed Areas to the current 15, for a total of 29 areas totaling 60,396 acres, or 15,901 acres more than current area (see Table 2 on page 192 and Table 5 on page 208, Table 8 in Appendix H, and maps in Appendix P).
- 2.) All areas, except on Lake Onalaska, would become true Waterfowl Sanctuaries by prohibiting entry and use from October 1 to the end of the respective state regular duck season.
- 3.) The current Lake Onalaska Closed Area and associated Voluntary Waterfowl Avoidance Area would not be affected, although boundary adjustments would be made.

Rationale: This objective represents a wildlife focus alternative to best meet the waterfowl-specific goals of the following overall Closed Area system goals:

- 1.) Provide migrating waterfowl a more balanced and effective network of feeding and resting areas.
- 2.) Minimize disturbance to feeding and resting waterfowl in closed areas.
- 3.) Provide waterfowl hunters with more equitable hunting opportunities over the length of the Refuge.
- 4.) Reduce hunter competition and waterfowl crippling loss along some closed area boundaries.
- 5.) Stabilize boundaries 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, Section 1.4.5.4, and analyzed in Chapter 3, Section 3.2.7 on page 235. The 14 new Closed Areas were chosen to fill gaps between existing Closed Areas, to meet the needs of both dabbling and diver 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 shows that this alternative objective would provide a 45 percent increase in total energy

available to waterfowl in the Closed Area system (this report is available at Refuge headquarters or on the Refuge planning web site: <http://midwest.fws.gov/planning/uppermiss/index.html>).

The Closed Area locations and configurations in this alternative also took into account the needs 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. No change was made in entry regulations for the Lake Onalaska closed area due to the unique circumstances presented by development on two sides of the area. By not changing, it also provides a useful control area to measure differences in effectiveness of a mandatory no entry provision versus voluntary compliance.

Strategies

- # Improve habitat in all Closed Areas by ongoing programs such as pool drawdowns, Environmental Management Program projects, and other agency initiatives and regulations.
- # Continue to monitor waterfowl use of Closed Areas through weekly aerial surveys in the fall.
- # Monitor the frequency and effect of disturbance by commercial, public, and agency entry into Closed Areas.
- # 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, signing, news releases, websites, and media interviews.
- # Post boundaries of new or modified closed areas well in advance of the waterfowl hunting season to help with public awareness.
- # 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 2006.

Objective 4.3.

Waterfowl Hunting Regulation Changes: In fall 2006, implement the following Refuge-specific waterfowl hunting regulation change (see Appendix I for current regulations):

- 1.) All hunters may possess no more than 25 shotshells during the respective state waterfowl season.
- 2.) Open-water hunting is prohibited on an area of Pool 9 near Ferryville and Cold Springs (river miles 652-658), and an area of Pool 11 (river miles 586-591), both in Wisconsin.

Rationale: The shotshell limit is designed to curb the excessive out-of-range shooting or "skybusting" that occurs throughout the Refuge to varying degrees. Skybusting can have a marked effect on the number of birds crippled and unretrieved, and disrupts the hunting for those who favor working birds with decoy sets. A shell limit will decrease skybusting by providing an incentive (longer hunting experience) for making judicious shooting decisions. The shell limit is reasonable and above limits imposed at other heavily-used public hunting areas and national wildlife refuges.

The prohibition of open-water hunting is to limit disturbance in areas of Pools 9 and 11 that have become important feeding and loafing sites for hundreds of thousands of canvasback and lesser scaup ducks, two species of management concern due to relatively small or declining populations. In Pool 9, the Refuge prohibition is additional insurance for safeguarding waterfowl use of the area into the future since Wisconsin regulations currently prohibit open water hunting. In Pool 11, 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 scaup, which fed on abundant fingernail clam. When the fingernail clams collapsed, waterfowl use virtually ceased. In recent years, wild celery has become established and the area is attracting large 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. The open water prohibition would be pre-emptive since virtually no open water hunting (skull boats) is happening at this time, but is likely as habitat improves and birds increase.

Strategies

- # 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, signing, news releases, websites, and media interviews.
- # 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 2006.
- # Maintain or improve habitat in Pools 9 and 11 through ongoing programs such as pool drawdowns, habitat enhancement projects, and other agency initiatives and regulations.
- # Continue to monitor waterfowl use of these areas through weekly aerial surveys in the fall.

Objective 4.4.

Firing Line – Pool 7, Lake Onalaska: In fall 2006, expand the Lake Onalaska Waterfowl Closed Area by approximately 530 acres by moving the north boundary northward (See Pool 7 Map, Alternative B, Appendix P). This expansion would close the so-called Barrel Blinds area to waterfowl hunting.

Rationale: This objective emphasizes a wildlife focus by closing an area notorious for skybusting, competition between hunters, and high crippling rates as noted in the issue discussion in Chapter 1, Section 1.4.5.4. This expansion represents a 7 percent increase in the existing Lake Onalaska Closed Area. Although there is some likelihood that this expansion would just move the firing line northward, difference in islands and emergent vegetation would tend to reduce firing line development.

Strategies

- # 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, signing, news releases, websites, and media interviews.

- # Post and sign the new boundary well in advance of the hunting seasons.
- # Increase law enforcement presence to help ensure understanding and compliance with boundary change, relying on verbal and/or written warnings, at an officer's discretion, the first year of implementation in 2006.

Objective 4.5.

Permanent Hunting Blinds on Savanna District: Eliminate the use of permanent hunting blinds within the Savanna District of the Refuge after the 2006-07 waterfowl hunting season. (See Table 17 in Appendix H and maps in Appendix P, Savanna District.)

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 were discussed more fully in Chapter 1, Section 1.4.5.4. This objective would also reduce the staff time spent on law enforcement, complaints, and clean-up which permanent blinds entail, time which could be directed toward more wildlife-related needs, and in line with the wildlife emphasis of this alternative.

Strategies

- # Conduct public information campaign to inform the public of the change and to give hunters who have become accustomed to the blinds a chance to adapt to alternative hunting methods or areas.
- # Prepare and distribute a leaflet explaining the change and regulations for temporary blinds.
- # Begin phase-in of regulations by requiring hunters to comply with the following requirements the year before a respective pool is scheduled for permanent blind phase out:
 1. Blinds must be marked with name and address of owner.
 2. All blind material 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: After the 2006-07 season, eliminate the managed waterfowl hunt at Potter's Marsh Managed Hunt, including the use of permanent blinds, and open the area to waterfowl hunting on a first-come, first-secured basis. (See Table 17 in Appendix H and maps in Appendix P, Pool 13.)

Rationale: 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 substantial administrative costs associated with the drawings, permit administration, and oversight of the current program (see issue discussion, Chapter 1, Section 1.4.5.4). 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.

Strategies

- # Conduct public information campaign beginning at least one year prior to implementation to inform the public of the change and to give hunters who have become accustomed to the managed hunt a chance to adapt to alternative hunting methods or areas.

Objective 4.7.

Blanding Landing Managed Hunt: 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. (See Table 17 in Appendix H and maps in Appendix P, Pool 12).

Rationale: 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.

Strategies

- # Conduct 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 104,716 acres of surface water within the Refuge, and an additional 38,645 acres of Waterfowl Closed Areas 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). Maintain 15 accessible fishing piers or docks. (Table 8 and Table 14 in Appendix H and maps in Appendix P)

Rationale: This objective represents the current areas available and open to fishing, tempered by the proposed no entry regulation for Closed Areas in this alternative (Objective 4.2) which would prohibit fishing and all other uses on 38,645 acres during the respective state duck hunting season. 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. No increase in fishing piers or docks is proposed in-line with the wildlife versus public use emphasis of this alternative.

Strategies

- # Enhance fishing opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
- # Continue to promote fishing through Fishing Days and other outreach and educational programming.

- # Cooperate with the states in their ongoing fishery management programs. Schedule yearly inspection and maintenance of fishing piers.

Objective 4.9.

Fishing Tournaments: By January 2008, develop a plan for issuing Refuge Special Use Permits in addition to, or in conjunction with, state-issued permits for all fishing tournaments occurring on the Refuge.

Rationale: Fishing tournaments are a use, and at times a commercial use, of the Refuge and subject to regulations governing uses of national wildlife refuges. The Refuge has not provided any oversight to this use, deferring to the states' regulatory and permitting processes. Refuge permitting would provide oversight to protect sensitive habitat and wildlife areas from the possible physical and disturbance impacts of fishing tournaments. Through permitting, the Refuge could also play a coordination role given the interstate nature of the Refuge and the river.

Strategies

- # Meet with the states and Corps of Engineers to discuss the best strategies for implementing a Refuge permit process in concert with their permitting procedures.
- # Develop with the states and Corps of Engineers as appropriate, time, space, and capacity parameters on each Pool within the Refuge, and definitions for what constitutes a fishing tournament.
- # Develop outreach plan to involve and inform fishing tournament organizations or sponsors with changes in regulations and procedures.

Objective 4.10.

Wildlife Observation and Photography: Maintain the following existing facilities to foster wildlife observation and photography opportunities: 15 observation decks and areas, 8 hiking trails, 4 canoe trails, 3 biking trails, and 1 auto tour route. (See Tables 3, 4, 5, 15 and 19 in Appendix H and maps in Appendix P.)

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 only an increase in the number of hiking trails (+2). This modest expansion of facilities reflects the wildlife emphasis of this alternative, directing staff to wildlife-related objectives versus public-use related objectives.

Strategies

- # Schedule annual inspection and maintenance of the facilities.
- # Ensure adequate signing and information in brochures, websites, and maps so the public is aware of the facilities.
- # Continue to promote the wildlife observation and photography opportunities of the Refuge through public education, outreach, special programs, and partnerships with the states, Corps of Engineers and private conservation groups.
- # Enhance observation and photography opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.

Objective 4.11.

Interpretation and Environmental Education: Maintain and update 59 interpretive signs (see Table 16 in Appendix H and maps in Appendix P for details). Continue to print and distribute Refuge General Brochure, and update websites quarterly. Continue to sponsor at least one major annual interpretive event on each Refuge District, and continue environmental education efforts at Districts with public use staff (Savanna and La Crosse).

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 continuation of a priority toward wildlife-related management activities versus public use activities and programs. Thus, this objective is identical to the objective in the no action or current direction alternative. Environmental education is labor intensive since it is curriculum-based, so efforts are generally limited to the Savanna and La Crosse Districts which have visitor services staff.

Strategies

- # Participate in national interpretive events such as National Wildlife Refuge Week or Migratory Bird Day for efficiency and effectiveness.
- # Schedule quarterly review of kiosks and interpretive signs and conduct maintenance and sign replacement as needed.
- # 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.
- # Continue work to complete exhibits at Savanna and La Crosse offices, and seek funding to replace exhibits at McGregor District and Lost Mound Unit.

Objective 4.12.

Commercial Fish Floats: By the end of 2008, eliminate the 4 existing commercial fish floats or fishing piers below Locks and Dams 6, 7, 8, and 9. (See Table 12 in Appendix H, and maps in Appendix P)

Rationale: This objective would eliminate a substantial cost in terms of staff time needed to administer this commercial use, especially in light of continued permit compliance issues with a majority of the fish float operations. The staff time devoted to these commercial operations would be directed to wildlife management and thus represent the wildlife emphasis of this alternative. This objective would also solve 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.

Strategies

- # Notify fish float owners/operators of intent to eliminate use and give them 3 years to phase out operations.
- # Help owners and operators look at off-refuge options for providing this service, such as the use of commercial barges not moored to Refuge lands or not anchored in Refuge waters.
- # Provide the public with information on the fish float phase out to give them time to seek alternate areas or means for this type of fishing.
- #

Objective 4.13.

Guiding Services: Beginning in spring 2006, do not allow commercial guiding for fishing, hunting, wildlife observation or any other uses 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. Providing proper administration and oversight of guiding in accordance with Service policy and regulations would be costly in terms of staff time and reduce resources available for higher priority fish, wildlife, and habitat objectives.

Strategies

- # Work with the states to ensure that their guide licensing does not conflict with the Refuge prohibition.
- # Conduct public information effort through news releases and media contacts to implement the objective.
- # Provide proactive enforcement through Refuge law enforcement officers and information provided by others in the law enforcement community.

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, implement new “closed-unless-open” policies, and new regulations, outlined below relative to beach-related uses and beach maintenance.

A. Beach Use Policy. Refuge lands will generally be closed to the beach-related, non-wildlife-dependent uses of camping, overnight mooring, and picnicking, swimming, and social gatherings. However, remnant and active dredged material placement sites, natural sand shorelines, and all other shoreline areas within the Refuge that are adjacent to the main channel of the river, including the backside of islands, points or other lands adjacent to the main channel, may be open to beach-related uses by District Managers through signing and other means.

B. 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) will remain in effect, except by April 1, 2007, the following regulation changes will be implemented:

- 1.) 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.
- 2.) All campers must have access to either a portable or approved, marine onboard toilet facility, or have in their possession a commercial human waste disposal kit for each person. All human solid waste and associated material, along with any personal property, refuse, trash, and litter, shall be removed immediately upon vacating a site.
- 3.) Entering or remaining on the Refuge when under the influence of alcohol will remain prohibited, but under the influence will be defined as a blood alcohol content of .08 percent blood alcohol content. In addition, develop a public intoxication regulation to give officers a tool to deal with unruly behavior.
- 4.) Beach Maintenance Policy. Beach maintenance (topdressing, reshaping, leveling, and vegetation clearing) will not be allowed on Refuge lands.

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 address the many issues related to beach use described in the issue section of Chapter 1. These issues included the high incidence of disturbing violations, wildlife displacement, litter and human waste, intoxication, unlawful and unruly behavior, and officer and public safety. However, it would also address the unique circumstances and traditions of beach-related uses at this Refuge and allow these uses to continue at locations and in a manner that would give maximum consideration to the fish and wildlife purpose of the Refuge and the wildlife focus of this alternative. Curtailing any beach maintenance would free staff planning and administrative time for wildlife-related work.

Strategies

- # Continue to work with the states and the Corps of Engineers through existing interagency workgroups to identify which areas in each Pool would be open in accordance with the new policies and regulations.
- # Conduct public information and education campaign well before implementation of changes, to include news releases, general articles, fact sheets, and media interviews.
- # Use the components and principles of the Leave No Trace program in the campaign (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).
- # Develop a brochure which clearly explains new policies and regulations and answers frequently asked questions.

- # Develop new signs for use on areas that would be open to beach-related uses to ensure public recognition and compliance.
- # Refuge 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.

Objective 5.2.

Electric Motor Areas: Beginning spring, 2006, establish a total of 10 electric motor areas on the Refuge encompassing 15,900 acres. A 5 mph speed limit would also apply in these areas given anticipated future changes in technology. Camping would also be prohibited in these areas. (See Table 13 in Appendix H, and maps in Appendix P)

Rationale: Technology in the form of jet skis, bass boats, shallow water motors such as Go-Devils™, airboats, and hovercraft has introduced more noise and user conflict to the backwater areas of the Refuge. This objective would help reduce disturbance to backwater fish nurseries and sensitive backwater wildlife such as raptors, colonial nesting birds, and furbearers in keeping with the wildlife focus of this alternative. It would also address the need to provide areas of quiet and solitude sought by many users of the Refuge. This objective only affects the means of navigation, and all current uses would be allowed (fishing, hunting, observation, etc.) in accordance with current regulations or those proposed elsewhere in this alternative. The 15,900 acres represents about 7 percent of the Refuge.

Strategies

- # Conduct a public information campaign to inform and educate the public about pending electric motor designations.
- # Clearly delineate electric motor areas on Refuge maps and by appropriate signing.

Objective 5.3.

Slow, No-Wake Zones: In 2006, add 9 new Refuge-administered slow, no-wake zones (brings total to 11) and assist local or other units of government in the enforcement of 44 other slow, no-wake zones within the Refuge. (See Table 18 in Appendix H, and maps in Appendix P)

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 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.

Strategies

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

Objective 5.4.

Dog Use Policy: Beginning in April, 2006, implement the following new regulation governing dogs and other domestic animals on the Refuge:

“Dogs and other domestic animals are not allowed to run free and must be restrained by leash no greater than 6 feet in length, or other means, at all times. Hunting and retrieving dogs are exempt from these conditions while engaged in authorized hunting activities during the hunting season. No field trials or training is allowed on the Refuge”

Rationale: This objective is in line with the current Refuge System regulation which prohibits unconfined domestic animals on national wildlife refuges. The new definition clarifies the meaning of “confined” and safeguards wildlife from domestic animals in keeping with the wildlife focus of this alternative. The new regulation also protects 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 training is a continuation of a long standing Refuge policy.

Strategies

- # Publish the new regulation in the Refuge public use regulation brochure, issue news releases, and conduct other outreach prior to implementation in 2006.
- # Except in certain cases, 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 2007.

Objective 5.5.

General Public Use Regulations: Beginning in 2006, 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).

Rationale: Public entry and use regulations serve to protect fish, wildlife, plants, and habitat and thus reflect the wildlife focus of this alternative. The current regulations were last reviewed and amended in 1999. However, the resources and public use of the Refuge is 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

- # Conduct review during Refuge law enforcement meetings.
- # Provide the public, states, and Corps of Engineers ample opportunity to review and comment on any new or substantially changed regulation.
- # Use national guidance and Federal Register process for codifying any changes and make them a part of the Code of Federal Regulations governing national wildlife refuges.
- # Update, print, and distribute the Public Use Regulations brochure.
- # Post pertinent regulations at boat landings and other public use areas, such as trail heads and beach areas.
- # 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: Maintain existing offices (6) and shops (5), but replace the maintenance facilities at Winona, McGregor, and Savanna Districts by 2010.

Rationale: As the wildlife focus alternative, this objective de-emphasizes the need for office replacement and public orientation facilities, but favors replacement of needed maintenance facilities since they directly support field habitat work which benefits fish and wildlife. Maintenance facilities or shops are used for equipment maintenance used in habitat work, and for fabrication of materials (signing, gates, posts, water control structures, etc.) which protect habitat. The existing offices are needed due to the size and length of the Refuge and for effectiveness and efficiency of management, administration, and public service.

Strategies

- # Ensure that Refuge shop needs are reflected in budget needs databases.
- # Continue to maintain Service-owned facilities using annual maintenance budget allocations.

Objective 6.2. Public Access Facilities: Maintain and modernize as needed, 25 public boat accesses on the Refuge. (See Table 1 in Appendix H, and maps, Appendix P)

Rationale: This objective represents the current number of boat accesses on the Refuge that are maintained by Refuge staff. Maintaining the current number reflects the wildlife focus of this alternative. In addition to these accesses, there are 222 other public and private boat accesses that provide access to the Mississippi River or its tributaries, and thus the Refuge.

Strategies

- # Continue routine upkeep of boat accesses by Refuge staff, temporary employees and Youth Conservation Corps members when available, and volunteers.
- # Continue to modernize accesses using Maintenance Management System funding or special funding which is provided periodically, and by implementing a self-service launch fee at Refuge-operated boat ramps.
- # In cooperation with states and local governments, explore Transportation Enhancement Act projects and funding to upgrade 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 funding needs for carrying out the wildlife focus alternative.

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.

Strategies

None warranted.

Objective 6.4.

Public Information and Awareness: By 2006, reduce 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 maintain the existing 66 information kiosks (see Table 16 in Appendix H).

Rationale: This objective reflects an emphasis on the science aspect of Refuge management by freeing staff time from public information and awareness. It also represents the realities of resource management triage in the face of limited visitor services specialists, and a focus on the core fish and wildlife mission and purpose of the Refuge.

Strategies

- # Be more strategic in selecting methods for public information and awareness, with focus on those efforts which reach the largest audience with the least amount of staff.
- # Continue to look for creative ways to leverage efforts and funding for public information.
- # Carry out related objectives dealing with trails, leaflets, and interpretive signs (see objectives 4.10 and 4.11).
- # 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 2015, increase staffing from current permanent, full-time level of 37 people to 57 people (54.5 full-time equivalents or FTEs) with priorities being biologists, specialists, technicians, and maintenance personnel who do biology and habitat work (see Table 2 on page 192 and Table 20 in Appendix H).

Rationale: This objective reflects a wildlife focus and the minimum operations and maintenance-funded staffing deemed necessary to meet the goals and objectives of this alternative. 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.

Strategies

- # Ensure that staffing needs are incorporated in budget needs databases.
- # Maintain other sources of funding for staff who coordinate the Environmental Management Program and the Partners for Fish and Wildlife Program.

2.4.4 Alternative C: Public Use Focus

Increase level of effort on public use opportunities and programs. Continue current level of effort on many fish and wildlife and habitat management activities, and decrease effort on others in favor of public use.

Alternative C Summary

Boundary issues would be addressed and the entire Refuge boundary would be surveyed. The rate of land acquisition within the approved boundary would increase to complete 58 percent of the total, an average of 1,000 acres per year, with priority given to tracts that also further public use access and opportunities. All bluffland areas identified in the 1987 Master Plan would be protected through fee-title acquisition or easement, and low-key oversight and administration of Research Natural Areas would continue. Guiding principles for habitat projects would be established, but they would not restrict any public use opportunities.

There would be increased effort to achieve continuous improvement in the quality of water flowing through the Refuge, including decreasing sedimentation. Pool-scale drawdowns would continue at current, intermittent level. Control of invasive plant species would be modest, and control of invasive animals would be minimal, relying on the work of the states and other agencies. Environmental Pool Plans would be implemented on a strategic and opportunistic basis using the Environmental Management Program or other programs and funding sources. Wildlife inventory and monitoring would decrease by reducing the number of species groups surveyed. Management of threatened and endangered species would focus on protection versus recovery. The furbearer trapping program would continue but be brought into compliance with policies by writing a new plan. There would continue to be limited emphasis on fishery and mussel management and commercial fishing oversight. Cooperation with the states and Corps of Engineers on turtle monitoring and research would continue, and a forest inventory on the Refuge completed in cooperation with the Corps of Engineers. The existing 5,700 acres of grassland habitat on the Refuge would be maintained and enhanced using fire and other tools.



*Photographer on Upper Mississippi River Refuge.
Photograph by Cindy Samples*

Hunting and fishing opportunities would continue on a large percentage of the Refuge. The system of waterfowl hunting closed areas would remain the same except for minor boundary adjustments. Entry into closed areas for purposes other than hunting, trapping, or camping would continue to be allowed, and the voluntary avoidance area on Lake Onalaska would remain in place. The firing line issue north of the closed area in Lake Onalaska would be addressed by moving the north boundary southward. Current waterfowl hunting regulations would be changed to include a hunting party spacing requirement of 100 yards. No action would be taken in regards to open water hunting in Pools 9 and 11. Permanent blinds for waterfowl hunting would be eliminated Refuge-wide, including those used in the Potter's Marsh and Blanding Landing managed hunts in the Savanna District. The Potter's Marsh managed hunt would continue, but administrative changes would be made to promote

fairness and efficiency. The Blanding Landing managed hunt would be eliminated, but the area would remain open to hunting. General fishing would continue to be promoted, although the Refuge would begin oversight of fishing tournaments in cooperation with the states and other agencies.

There would be a major increase in facilities or programming for wildlife observation, photography, interpretation and environmental education. There would be some increase in Refuge access through new facilities and improvement of existing boat ramps, pull offs, and overlooks. A boat launch fee would be initiated at Refuge-operated boat ramps. Commercial fish floats or piers below locks and dams 6, 7, 8, and 9 would be retained if standards met, and a new fish float proposed in the Savanna District. Commercial guiding on the Refuge would be allowed, but with consistent policy and permit procedures. Areas open to beach-related public use (camping, swimming, picnicking,

social gatherings) would remain virtually unchanged, although regulations would be changed to safeguard users, a policy on beach maintenance would be implemented, and an annual Refuge Recreation Use Permit and fee would be initiated to improve recreation management. A total of 15 electric motor areas and 8 new slow, no-wake zones would be established. Current regulations on use of dogs would be changed to allow dogs to be exercised and trained under certain conditions. General public use regulations would be reviewed annually and changed as needed.

New offices and maintenance facilities would be constructed at the Winona, La Crosse, McGregor, and Savanna Districts (shop only at Savanna), and eventually the office and shop facilities at Lost Mound Unit would be remodeled or replaced. A major new visitor center would be constructed in either Winona or La Crosse. Public information and awareness efforts would be increased 50 percent. Staffing levels for the Refuge would increase by 17.5 full-time equivalents with the priority being public use related positions.

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 with the Corps of Engineers, re-survey and post the entire Refuge boundary 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, 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.

Strategies

- # Enter into a joint Service/Corps of Engineers project to complete a cadastral survey of the Refuge boundary.
- # With the Corps of Engineers, complete a survey plan of action to prioritize and schedule the completion of the survey by 2020.
- # Seek the funding necessary for the survey work.
- # Also with the Corps of Engineers, review, update, and publish a new Land Use Allocation Plan for lands within the Refuge (see Chapter 1, section 1.4.3.1 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 (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. Habitat, in turn, provides the public various recreational opportunities. On a narrow, linear refuge, land acquisition is a critical component of restoring the

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 and waters most important to wildlife-dependent recreation would be given higher priority than lands which only protect fish and wildlife, in keeping with the public use focus of this alternative.

Strategies

- # Seek consistent Land and Water Conservation Fund appropriations to meet the objective (approximately \$1.5 million per year at \$1,500 per acre).
- # Explore land exchanges with the states to remove intermingled ownerships.
- # 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, Appendix G.)

Rationale: There have been no acquisitions of bluffland areas since first identified in the 1987 Master Plan, and this objective represents a more aggressive approach to safeguarding the wildlife and recreation values of these areas. In recent years, peregrines 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, harbor unique and diverse plants and animals, and provide recreational opportunities that contrast and complement floodplain recreation. 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.

Strategies

- # Seek consistent acquisition funding as noted in Objective 1.2 and favor fee-title acquisition over easements since public ownership would provide additional recreational opportunities in line with a public use focus.
- # Work with the state, local governments, and private land trusts to protect bluffland habitat and scenic values.
- # Work with local units of government to encourage zoning regulations which protect bluffland scenic qualities.
- # Help educate the public on the values of blufflands for birds and unique plant communities.

Objective 1.4

Research Natural Areas and Special Designations: Conduct yearly visits to the Refuges' four federally-designated Research Natural Areas and document condition, check boundary signing, and conduct ongoing wildlife surveys. Increase efforts to make the public aware of values and public use opportunities of Research Natural Areas. Establish no new Research Natural Areas. (See maps, Appendix P and Table 7 in Appendix H.)

Rationale: This objective represents the current level of management which is expected to continue under this alternative. However, there is an increase in public awareness efforts in concert with the public use focus of this alternative. No other areas of the Refuge are deemed suitable for Natural Area designation.

Strategies:

- # Ensure yearly visits remain a part of annual work plans in each Refuge District containing Research Natural Areas.
- # Incorporate general and recreational opportunity information on Research Natural Areas in brochures, maps, and websites to increase public awareness.

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, seek a continuous improvement in the quality of water flowing through and into the Refuge in terms of parameters measured by the Long Term 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

- # 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.
- # Increase conservation assistance agreements with Soil and Water Conservation Districts and Resource Conservation and Development boards.
- # Cooperate with local government land use planning efforts to ensure that water quality impacts to the Refuge are considered.

- # Emphasize water quality aspects, especially sediment deposit in backwaters, in all habitat enhancement projects.
- # Give enhanced consideration to sediment projects which improve public access.
- # Link the planning and projects for tributary watersheds to Environmental Pool Plan implementation using the latest GIS-based mapping and modeling.
- # Support cooperative water quality monitoring and improvement efforts through the Upper Mississippi River Conservation Committee and other groups and agencies.
- # Continue to stress the importance of water quality in public information and interpretive and education programs.

Objective 2.2.

Water Level Management: By 2021, complete drawdowns of all Refuge pools during the summer growing season in cooperation with the Corps of Engineers and the states.

Rationale: Lowering the water levels in impoundments during the growing season is a proven management practice to dramatically increase emergent vegetation. Improved vegetation will result in more food and cover for a wide range of fish and wildlife species, which in turn will provide increased opportunities for fish and wildlife-dependent recreation such as fishing, hunting, and observation. 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. All pools would benefit from drawdowns. However, Pool 14 does not appear to be feasible in the 15-year horizon of this plan.

Strategies

- # Continue to work in partnership with the interagency water level management taskforce to plan and facilitate drawdowns. Inform and involve citizens through public meetings, workshops, and citizen advisory groups.
- # Ensure public access during drawdowns is addressed.
- # Seek all available funding sources to carry out needed recreational access dredging to lessen social and economic impacts during drawdowns (proposals in Corps of Engineers Navigation Study released in 2004 includes funding for drawdowns).

Objective 2.3.

Invasive Plants: Each year, conduct at least one biological control effort on purple loosestrife and/or leafy spurge on each District of the Refuge, and continue ongoing education and outreach efforts on the effects of invasive plants.

Rationale: This objective represents the current modest program of invasive plant control by the Refuge which would continue under an alternative which favors public use management and administration. Biological control consists of 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. Biological control methods are not yet readily available for other invasive plant species. Education and outreach is ongoing as a part of regular displays, programs, and media work.

Strategies

- # 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.
- # Take advantage of periodic invasive grant, cost-sharing, or special funding opportunities offered through the Service or other agencies and foundations.
- # Continue to provide information and education to the public through the media, brochures, signage, and programs.

Objective 2.4.

Invasive Animals: Continue ongoing information and education efforts on the issue of invasive animal species and their impact on the resources of the Refuge.

Rationale: Since the focus of this alternative is public use, this objective represents a continuation of the current direction of the Refuge in regard to invasive animals. It also represents basic limitations of resources, but perhaps just as important, 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.

Strategies

- # Continue to support the efforts of other agencies and groups in the monitoring, research, and control of invasive animals.
- # Continue to provide information and education to the public through the media, brochures, signage, and programs.

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, implement at least 30 percent of the Refuge-priority Environmental Pool Plan actions and strategies in Pools 4-14 as summarized in Table 4 on page 196 (see Appendix N 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 provide enhanced opportunity for wildlife-dependent recreation, the focus of this 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 4. 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

- # 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.
- # Ensure that priorities take into account public use needs and opportunities.
- # Continue to work for full and expanded funding of the Environmental Management Program through public and Congressional information and outreach.
- # Take advantage of any new funding sources that emerge, such as appropriations from Congress for implementing the Navigation Study ecosystem restoration recommendations.

Objective 3.2.

Guiding Principles for Habitat Management Programs: Upon approval of the CCP, adopt and use the following guiding principles when designing or providing input to design and construction of habitat enhancement projects:

- 1.) Management practices will restore or mimic natural ecosystem processes or functions to promote a diversity of habitat and minimize operations and maintenance costs.
- 2.) Maintenance and operation costs of projects will be weighed carefully since annual budgets for these items are not guaranteed.
- 3.) 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.

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 will design 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 under this alternative provide no guidance or restrictions on public use or aesthetics, reflecting a public use focus.

Strategies

- # 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.

Objective 3.3.

Monitor and Investigate Fish and Wildlife Populations and Their Habitats: By January 2008, amend the 1993 Wildlife Inventory Plan to eliminate yearly monitoring of aquatic invertebrates, submerged aquatic vegetation, breeding songbirds, and frogs and toads, and focus only on waterfowl, colonial nesting birds, bitterns and rails, and bald eagle nesting.

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 planning habitat management and public use programs. However, this objective represents a reduced inventory program in line with directing staff toward public use-related management activities. Monitoring would be skewed toward a select group of migratory birds in keeping with historic federal interest and responsibilities. The Refuge would continue to rely on monitoring done by others to help fill the gaps in status and trends information for breeding songbirds, fish, mussels, reptiles and amphibians, forests and other land cover, and environmental factors such as water chemistry and sedimentation.

Strategies

- # Review and amend as needed the Wildlife Inventory Plan to ensure the latest protocols are being followed, but reduce the species being monitored.
- # Continue to work with the states, U.S. Geological Survey, and Corps of Engineers in the sharing of data on other species and habitats.
- # Continue to use volunteers for certain monitoring efforts such as the breeding bird survey point counts.
- # Complete a Habitat Management Plan which integrates species status and trends with the Environmental Pool Plans (Objective 3.1).

Objective 3.4.

Threatened and Endangered Species Management: Continue ongoing protection of federally-listed threatened, endangered, and candidate species and conduct yearly survey of bald eagle nesting.

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 the continuation of a minimum threatened and endangered species program, mainly through the protection of habitat and review and consultation of management actions in light of possible impacts to these species. The only species actively monitored by the Refuge are bald eagles due to public interest and their symbolic stature. This objective also reflects the public use versus wildlife focus of this alternative.

Strategies

- # Consider the needs of threatened, endangered, and candidate species in all habitat and public use management decisions.
- # Continue to consult with the Service's Ecological Services Offices on all actions which may affect listed species.
- # Continue monitoring bald eagle nesting populations and success.
- # Continue assistance to other offices and agencies with Higgins eye pearl mussel recovery efforts.

Objective 3.5.

Furbearer Trapping: Update the Refuge trapping plan by June 2007, continuing the existing trapping program until the update is completed.

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 a valued recreational pursuit and supports the public use emphasis of this alternative. However, 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

- # The Refuge wildlife biologists, in consultation with Refuge District managers and state furbearer biologists will develop a revised trapping plan for approval by the Refuge manager.
- # Afford the public an opportunity for review and comment on the plan.
- # Complete a new compatibility determination for public review and comment.

Objective 3.6.

Fishery and Mussel Management: Continue to defer fishery and mussel management on the Refuge to the states and the Service's Fishery Resource Office in La Crosse, Wisconsin.

Rationale: This objective reflects the current and projected Refuge involvement in fishery and mussel management given current funding and staffing levels and a focus on public use versus fish and wildlife.

Strategies

- # Continue to gather information from state and other Service offices on the status of fish and mussels on the Refuge.
- # Rely on fisheries status and trends provided by the Long Term Resource Monitoring Program of the Environmental Management Program administered by the Corps of Engineers.

Objective 3.7.

Commercial Fishing and Clamming: Continue to defer to state departments of natural resources to monitor, regulate, and permit commercial fishing and clamming.

Rationale: This objective reflects the current and projected Refuge involvement in commercial fishing and mussel harvest given current funding and staffing restraints, and the focus of existing resources on public use-related objectives. In keeping with the emphasis of this alternative.

Strategies

- # Continue to gather information from the states and the Upper Mississippi River Conservation Committee on harvest levels.
- # Conduct license and permit compliance on an opportunistic basis during routine Refuge law enforcement efforts.

Objective 3.8.

Turtle Management: Continue to cooperate with state departments of natural resources and the Corps of Engineers in monitoring turtle populations on certain Refuge areas, but continue to defer to the states on commercial harvest management of certain turtle species.

Rationale: Under a public use focus, current and projected Refuge involvement in turtle management and harvest reflected in this objective is expected to continue. The Refuge has contributed funds and staff to monitoring and study efforts, but availability is unpredictable from year to year.

Strategies

- # Work in partnership with the states and Corps of Engineers on monitoring and research efforts for turtles.
- # Seek funding for research into turtle ecology and population status through grants.
- # Increase public awareness of the importance of the Refuge and river to turtles.
- # Consider the needs of turtles in habitat and public use planning and projects.

Objective 3.9.

Forest Management: Complete by the end of 2008, in cooperation with the Corps of Engineers, a forest inventory of 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. Long-term forest health is important to wildlife-dependent public use since it will support wildlife species important to hunting and wildlife observation. The Corps of Engineers has been actively working on a forest inventory for several years on Corps of Engineers-acquired lands, and it makes fiscal and efficiency sense to partner with the Corps of Engineers on this objective.

Strategies

- # As Refuge funding allows, continue to fund seasonal technicians to help with the Corps of Engineers' inventory project on Refuge-acquired lands.
- # Continue to work with the Corps of Engineers and other partners on forest rejuvenation and research projects.
- # Continue small scale reforestation, especially mast-producing hardwoods, on suitable Refuge lands.

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.

Rationale: Many species of wildlife, particularly birds, are dependent on grassland habitat, which in turn supports recreation such as hunting and wildlife observation. 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. Active management is needed to curb loss of grasslands to forest succession or invasive species, and to maintain species diversity and health.

Strategies

- # Implement the Refuge's Fire Management Plan.
- # Use haying, rotational grazing, and control of invasive plants as appropriate to maintain grasslands.
- # Restore native prairie where feasible using a combination of rest, fire, farming, and reseeding as appropriate to the site.

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 189,647 acres (79 percent) of land and water of the Refuge open to all hunting in accordance with respective state seasons, and add 9 new administrative No Hunting Zones for a total of 5,959 acres. See related Objective 4.2 on Waterfowl Closed Areas. (See Table 2 and Table 9 in Appendix H and maps in Appendix P)

Rationale: Maintaining a large percentage of the Refuge open to hunting is in keeping with the public use focus of this alternative and guidance in the Refuge Improvement Act to facilitate wildlife-dependent use when compatible. This objective also represents a public use emphasis by keeping the existing number of Waterfowl Closed Areas in the related Objective 4.2. These Closed Areas reopen to some hunting after the duck season, adding to the open acreage above. The one new No Hunting Zone is for safety reasons and to increase wildlife observation opportunities during hunting seasons. This area is at Sturgeon Slough, Pool 10 (66 acres), which contains a fairly new hiking trail off a major highway.

Strategies

- # 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.
- # Continue to publish the Refuge Hunting Regulations brochure to inform the public of hunting opportunities and Refuge-specific regulations.
- # Continue to improve the hunting experience by ongoing improvements to habitat and enforcement of regulations.
- # Review the 1989 Refuge Hunting Plan and modify as needed to comply with new regulations and policies.
- # Clearly sign areas closed to hunting and ensure public notification through news releases and other means well before the hunting seasons.

Objective 4.2.

Waterfowl Hunting Closed Areas: Continue current system of 14 Closed Areas and 1 Sanctuary Area, but in 2007, reduce the size of the Lake Onalaska Closed Area by about 245 acres. Closed Area and Sanctuary acreage would be 40,928 and 3,686 acres respectively. Make area adjustments to clarify boundary or address operation and maintenance needs. (See Table 6 and Table 9 in Appendix H and maps in Appendix P)

Rationale: Closed Areas are designed to provide relatively undisturbed fall resting and feeding areas for the length of the Refuge, and to more evenly distribute waterfowl hunting opportunities. This objective represents a

virtually unchanged Closed Area system, and keeps a large portion of the Refuge open to waterfowl hunting in line with the public use emphasis of this alternative. This alternative also reflects a reduction in the size of the Lake Onalaska Closed Area as described in Objective 4.4 below. Minor boundary adjustments have been made to some areas over the years and are needed periodically to address physical changes in the environment (such as island erosion) and to reduce confusion or yearly posting concerns.

Strategies

- # Improve habitat in Closed Areas by ongoing programs such as pool drawdowns, Environmental Management Program projects, and other agency initiatives and regulations.
- # Continue Voluntary Avoidance Area program for the Lake Onalaska (Pool 7) closed area, and seek to expand to other Closed Areas where feasible.
- # Continue to monitor waterfowl use of closed areas through weekly aerial surveys in the fall.

Objective 4.3.

Waterfowl Hunting Regulation Changes. In fall 2006, implement the following Refuge-specific waterfowl hunting regulation changes: (See Appendix I for current regulations.)

- 1.) Waterfowl hunting parties shall maintain at least 100 yards spacing between each other. A party is defined as one or more persons hunting together from a boat or stationary location.

Rationale: This objective is designed to improve the waterfowl hunting experience by reducing the conflict and competition between hunting parties that can occur in favored areas of the Refuge. Refuge officers have observed, and received complaints about, crowding and its disruption to hunters favoring decoy hunting, and its contribution to skybusting and confrontations between hunters. The Refuge Manual (8 RM 5) encourages managers to space hunters appropriately to the situation. The 100 yard minimum is less than the standard 200 yards used on many public hunting areas, but is deemed appropriate for this Refuge.

Strategies

- # Conduct a comprehensive public information effort to inform waterfowl hunters of impending changes. Use all methods available including personal contact, presentations at organizations, special meetings, leaflets, signing, news releases, websites, and media interviews.
- # 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 2006.

Objective 4.4.

Firing Line – Pool 7, Lake Onalaska. In fall 2006, reduce the Lake Onalaska Waterfowl Closed Area by approximately 245 acres by moving the north boundary southward. (See Pool 7 Map, Alternative C, Appendix P)

Rationale: This objective emphasizes a public use focus by increasing the area open to hunting while eliminating an area notorious for skybusting, competition between hunters, and high crippling rates as noted in the issue

discussion in Chapter 1, Section 1.4.5.4. This reduction represents a 3 percent decrease in the existing Lake Onalaska Closed Area. Although there is some likelihood that this expansion would just move the firing line southward, difference in islands and open water along the new line should markedly reduce firing line development.

Strategies

- # 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, signing, news releases, websites, and media interviews.
- # Post and sign the new boundary well in advance of the hunting seasons.
- # Increase law enforcement presence to help ensure understanding and compliance with boundary change, relying on verbal and/or written warnings, at an officer's discretion, the first year of implementation in 2006.

Objective 4.5.

Permanent Hunting Blinds on Savanna District. Eliminate the use of permanent hunting blinds within the Savanna District of the Refuge after the 2006-07 waterfowl hunting season. (See Table 17 in Appendix H and maps, Appendix P, Savanna District.)

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 were discussed more fully in Chapter 1, Section 1.4.5.4. This objective would also reduce the staff time spent on law enforcement, complaints, and clean-up which permanent blinds entail, time which could be directed toward public use-related needs. This would also increase hunting opportunity for the broadest spectrum of hunters, and thus reflect the public use emphasis of this alternative.

Strategies

- # Conduct public information campaign to inform the public of the change and to give hunters who have become accustomed to the blinds a chance to adapt to alternative hunting methods or areas.
- # Prepare and distribute a leaflet explaining the change and regulations for temporary blinds.
- # Begin phase in of regulations by requiring hunters to comply with the following requirements the year before a respective pool is scheduled for permanent blind phase out:
 1. Blinds must be marked with name and address of owner.
 2. All blind material 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. After the 2006-07 season, eliminate the managed waterfowl hunt at Potter's Marsh Managed Hunt, including the use of permanent blinds, and open the area to waterfowl

hunting on a first-come, first-secured basis. (See Table 17 in Appendix H and maps in Appendix P, Pool 13.)

Rationale: 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 substantial administrative costs associated with the drawings, permit administration, and oversight of the current program (see issue discussion, Chapter 1, Section 1.4.5.4). This objective reflects a public use emphasis since it would open the Potter's Marsh area to a broad spectrum of hunters. In addition, the funding and staff currently required for this hunt could be re-directed to public use objectives throughout the Savanna District.

Strategies

- # Conduct public information campaign beginning at least one year prior to implementation to inform the public of the change and to give hunters who have become accustomed to the managed hunt a chance to adapt to alternative hunting methods or areas.

Objective 4.7.

Blanding Landing Managed Hunt. 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. (See Table 17 Appendix H and maps in Appendix P, Pool 12.)

Rationale: 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 public use emphasis since funding and staff currently devoted to this hunt could be focused on public use objectives throughout the Savanna District, and especially the new Lost Mound Unit which has large start-up needs.

Strategies

- # Conduct 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 140,545 acres of surface water within the Refuge, and an additional 2,736 acres in Waterfowl Closed Areas in spring, summer, and winter. (Note: Iowa, Wisconsin, and Illinois regulations maintain fish "refuges" below lock and dams 11,12, and 13, December 1 through March 15). Add 5 new accessible fishing piers or docks for a total of 20. (See Table 9 and Table 14 in Appendix H and maps in Appendix P)

Rationale: This objective represents the current areas available and open to fishing and the area currently closed to fishing from October 1 to the end of the duck hunting season to limit disturbance to waterfowl (Spring Lake, Pool 13). 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 the public use emphasis of this alternative. The adding of 5 accessible fishing piers is in keeping with this emphasis.

Strategies

- # Enhance fishing opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
- # Continue to promote fishing through Fishing Days and other outreach and educational programming.
- # Cooperate with the states in their ongoing fishery management programs. Schedule yearly inspection and maintenance of fishing piers.

Objective 4.9.

Fishing Tournaments. Beginning in January 2007, begin review of all state-issued permits for all fishing tournaments occurring on the Refuge.

Rationale: Fishing tournaments are a use, and at times a commercial use, of the Refuge and subject to regulations governing uses of national wildlife refuges. The Refuge has not provided any oversight to this use, deferring to the states regulatory and permitting process. Refuge review would provide oversight to protect sensitive habitat and wildlife areas from the possible physical and disturbance impacts of fishing tournaments. Through permit review, the Refuge could also play a coordination role given the interstate nature of the Refuge and the river. Limiting Refuge involvement to permit review would be the least time consuming and a fairly large number of tournaments would continue in line with the public use emphasis of this alternative.

Strategies

- # Meet with the states to discuss the best strategies for implementing a permit review process.
- # With the states and the Corps of Engineers, develop time, space, and capacity parameters on each Pool within the Refuge, and definitions for what constitutes a fishing tournament.
- # Develop outreach plan to involve and inform fishing tournament organizations or sponsors with any changes in regulations and/or procedures.

Objective 4.10.

Wildlife Observation and Photography. Maintain the following existing and new facilities to foster wildlife observation and photography opportunities: 31 observation decks and areas, 3 observation towers, 3 photography blinds, 21 hiking trails, 26 canoe trails, 6 biking trails, and 3 auto tour routes. (See Tables 3, 4, 5, 15 and 19 in Appendix H and maps in Appendix P)

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 observation decks (+16), observation towers (+3), photography blinds (+3), hiking trails (+15), canoe trails (+22), biking trails (+3), and auto tour routes (+2). This expansion of facilities reflects the public use emphasis of this alternative,

directing staff and funding to public use-related objectives versus wildlife-related objectives.

Strategies

- # Schedule annual inspection and maintenance of the facilities.
- # Ensure adequate signing and information in brochures, websites, and maps so the public is aware of the facilities.
- # Continue to promote the wildlife observation and photography opportunities of the Refuge through public education, outreach, special programs, and partnerships with the states, Corps of Engineers, and private conservation groups.
- # Enhance observation and photography opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
- # 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 (+43) (see Table 15 in Appendix H for details). Build new district offices with visitor contact facilities at McGregor, Winona, La Crosse, and the Lost Mound Unit, and construct a major visitor center and headquarters at either Winona or La Crosse. Continue to print and distribute 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.

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 public use focus of this alternative. It also reflects basic needs for a Refuge that is the most heavily visited in the U.S., and would provide the visitor 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.

Strategies

- # 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.
- # 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.
- # Participate in national interpretive events such as National Wildlife Refuge Week or Migratory Bird Day for efficiency and effectiveness.
- # Schedule quarterly review of interpretive signs and conduct maintenance and sign replacement as needed.
- # 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.
- # Continue to locate 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 4 existing commercial fish floats or fishing piers below Locks and Dams 6, 7, 8, and 9, and solicit proposals for one new fish float, or other alternative, in the Savanna District. (See Table 12 in Appendix H and maps in Appendix P)

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.

Strategies

- # Draft new standards well in advance of implementation and give fish float owners/operators a chance to review and comment.
- # Continue yearly coordination meeting with float owners and operators to address concerns and permit conditions.
- # Continue enforcement of permit stipulations and suspend permits of those operations not meeting the stipulations.
- # Inspect facilities for safety at least once yearly.
- # Ensure open and fair solicitation of proposals for a possible new float below Lock and Dam 12. If any floats are phased out due to non-compliance with permit stipulations, ensure adequate public notice so clients can seek alternate opportunities.

Objective 4.13

Guiding Services. In spring 2007, begin implementing 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 benefit the general public that uses the Refuge for hunting, fishing, and wildlife observation, and thus represents a public use focus.

Strategies

- # Work with the states to ensure coordination and some degree of consistency with their guide licensing requirements and procedures.
- # Conduct public information effort through news releases and media contacts to implement the objective.
- # Provide proactive enforcement through Refuge law enforcement officers and information provided by others in the law enforcement community.

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. Continue current “open” policy for beach-related uses such as camping, mooring, picnicking, and social gatherings in accordance with existing public use regulations (see Appendix J), but beginning in spring 2007, implement policies and regulations outlined below relative to these uses and beach maintenance.

- 1.) *Beach Use Policy.* Refuge lands will generally be open to the beach-related, non-wildlife-dependent uses of camping, overnight mooring, picnicking, swimming, and social gatherings.
- 2.) *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) will remain in effect, except by April 1, 2007, the following regulation changes will be implemented:
 - a) 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) All personal property, refuse, trash, and litter, including human solid waste and associated material, shall be removed immediately upon vacating a site.
 - c) Entering or remaining on the Refuge when under the influence of alcohol will remain prohibited, but under the influence will be defined as a blood alcohol content of .08 percent blood alcohol content. In

addition, develop a public intoxication regulation that gives officers a tool to deal with unruly behavior.

- d) All motorized watercraft which land, park, or moor on Refuge-managed lands, or use the 25 Refuge-operated boat landings, between May 1 and September 1, must have affixed to the outside, right side of the watercraft a current year Refuge Recreation Use Permit sticker. Recreation use permits will cost a minimum of \$15, will be valid for unlimited visits in the year issued, and be made available via the internet or in person, phone, or mail from any Refuge office or other designated locations.
- 3.) Beach Maintenance Policy. Beach maintenance (topdressing, reshaping, leveling, and vegetation clearing) will be allowed on all Refuge lands zoned as low-density recreation in the Service/Corps of Engineers Land Use Allocation Plans.

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 litter and human waste, intoxication, unlawful and unruly behavior; officer and public safety, and preemptive use of preferred camping or hunting sites. This objective fosters a high amount of recreation in keeping with the public use focus of this alternative, and is a reasonable alternative given that most use occurs adjacent to the main channel of the river; a corridor which harbors the least amount of wildlife during the peak visitor use season. Charging a recreation fee would provide funding for law enforcement, site maintenance and cleanup, and general beach maintenance to improve the quality of the experience for visitors.

Strategies

- # Continue to work with the states and the Corps of Engineers through existing interagency workgroups to complete beach plans for each pool within the Refuge according to the policies and regulations above.
- # Conduct public information and education campaign well before implementation of regulation changes, to include news releases, general articles, fact sheets, and media interviews. Use the components and principles of the Leave No Trace program in the campaign (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).
- # Develop a brochure which clearly explains new policies and regulations and answers frequently asked questions.
- # Plan, test, and refine a user-friendly method of recreational permit sales. Refuge 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.

Objective 5.2.

Electric Motor Areas. Beginning spring 2006, establish a total of 15 electric motor areas on the Refuge that are within a mile of public accesses, encompassing 13,239 acres. A 5 mph speed limit would also apply in these areas given anticipated future changes in technology. (See Table 13 in Appendix H, and map in Appendix P.)

Rationale: Technology in the form of jet skis, bass boats, shallow water motors such as Go-Devils, airboats, and hovercraft has introduced more noise and user conflict to the backwater areas of the Refuge. This objective would support the public use emphasis of this alternative by meeting the needs of visitors who desire areas of quiet and solitude, while helping to reduce disturbance to fish and wildlife in these areas. This objective only affects the means of navigation, and all current uses would be allowed (fishing, hunting, observation, etc.) in accordance with current regulations or those proposed elsewhere in this alternative. The 13,239 acres represents about 5 percent of the Refuge.

Strategies

- # Conduct a public information campaign to inform and educate the public about pending electric motor designations.
- # Clearly delineate electric motor areas on Refuge maps and by appropriate signing.

Objective 5.3.

Slow, No-Wake Zones. In 2006, add 8 new Refuge-administered slow, no-wake zones (brings total to 10) and assist local or other units of government in the enforcement of 44 other slow, no-wake zones within the Refuge. (See Table 18 in Appendix H, and maps in Appendix P.)

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 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.

Strategies

- # Continue to inform the public of the slow, no wake areas through seasonal buoy placement and signing as appropriate.
- # Continue to conduct periodic enforcement of the slow, no-wake restriction.
- # Continue to cooperate and coordinate with local units of government which establish most slow, no wake zones.

Objective 5.4.

Dog Use Policy. Beginning March 1, 2007, implement the following new regulation governing dogs on the Refuge:

“No pets are allowed to disturb or endanger the wildlife resource or people while on the Refuge. All dogs and other pets while on the Refuge must be under the control of their owners at all times. No dogs will be allowed to roam. All dogs and pets must be physically restrained when on posted designated areas such as hiking trails and sensitive areas, and when in close

proximity of other people on recreational sandbars, except when engaged in authorized hunting activity. No field trials, or commercial or organized training.”

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 and train their dogs in line with the public use emphasis alternative, while protecting Refuge wildlife. 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

- # Publish the new regulation in the Refuge public use regulation brochure, issue news releases, and conduct other outreach prior to implementation in 2007.
- # Except in certain cases, 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 2006, 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).

Rationale: Public entry and use regulations not only protect wildlife, but enhance the quality of the visitor experience and thus reflect the public use focus of this alternative. The current regulations were last reviewed and amended in 1999. However, the resources and public use of the Refuge is 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

- # Conduct review during Refuge law enforcement meetings.
- # Provide the public, states, and Corps of Engineers ample opportunity to review and comment on any new or substantially changed regulation.
- # Use national guidance and Federal Register process for codifying any changes and make them part of the Code of Federal Regulations governing national wildlife refuges.
- # Update, print, and distribute the Public Use Regulations brochure.
- # Post pertinent regulations at boat landings and other public use areas, such as trail heads and beach areas.
- # 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 Savanna District. Each office would have expanded public orientation and interpretation and environmental education capability, but not a biological work area or lab. By 2020, build a new office and large visitor center for the Headquarters of the Refuge, and locate it either in Winona or La Crosse. Also by 2020, remodel or replace office and shop at the Lost Mound Unit.

Rationale: As the public use focus alternative, this objective emphasizes the need for office replacement and visitor contact facilities along with the maintenance capability to support recreation-related infrastructure. The expansion of the Savanna District office would be an additional meeting room/classroom for expanded interpretive programs and environmental education. A large visitor center associated with the Headquarters would provide a focal point for millions of Refuge visitors, and provide state-of-the-art information, displays, and interpretive and education programs.

Strategies

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

Objective 6.2.

Public Access Facilities. By 2020, add 1 new boat landing (total of 26), 3 new walk-in accesses, and 3 new and 1 improved canoe landings. Improve 5 parking areas on the Refuge to support public use. (See Table 1 in Appendix H, and maps in Appendix P.)

Rationale: This objective represents an increase in public access facilities in line with the public use emphasis of this alternative. 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 222 other public and private boat accesses that provide access to the Mississippi River or its tributaries, and thus the Refuge.

Strategies

- # Continue routine upkeep of boat accesses by Refuge staff, temporary employees and Youth Conservation Corps members when available, and volunteers.
- # Continue to modernize accesses using Maintenance Management System funding or special funding which is provided periodically, and by implementing a self-service boat launch fee at Refuge-operated boat ramps.
- # 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 funding needs for carrying out the public use focus alternative.
- 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.
- Strategies*
- # None warranted.
- Objective 6.4.** Public Information and Awareness. By 2007, 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 2020 increase information kiosks to 115 (+49) as shown in Table 16 of Appendix H and maps in Appendix P.
- Rationale:* This objective reflects an emphasis on providing the public more information, especially in regards to public use opportunities to reflect the focus of this alternative.
- Strategies*
- # Hire visitor services specialists for those Districts without, namely Winona and McGregor Districts.
 - # Hire a public information specialist at Headquarters to increase attention on interviews, news releases, and special events.
 - # Continue to look for creative ways to leverage efforts and funding for public information.
 - # Carry out related objectives dealing with trails, leaflets, and interpretive signs (see objectives 4.10 and 4.11).
 - # 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 2015, increase staffing from current permanent, full-time level of 37 people to 57 people (54.5 full-time equivalents or FTEs) with priorities being public use, maintenance, receptionists, and public information personnel who most directly support public use work on the Refuge (see Table 2 on page 192 and Table 20 in Appendix H).
- Rationale:* This objective reflects a public use focus and the minimum operations and maintenance-funded staffing deemed necessary to meet the goals and objectives of this alternative. 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, or related to, the strategies for various objectives in this alternative.

Strategies

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

2.4.5 Alternative D: Wildlife and Integrated Public Use Focus

Increase level of effort on fish and wildlife and habitat management. Take a more proactive approach to public use management to ensure a diversity of opportunities for a broad spectrum of users, both for wildlife-dependent uses and traditional and appropriate non-wildlife-dependent uses.

Alternative D Summary

Boundary issues would be aggressively addressed and the entire Refuge boundary would be surveyed. The rate of land acquisition would increase within the approved boundary to complete 58 percent of the total, an average of 1,000 acres per year. There would be more effort to protect through easements or fee-title acquisition all bluffland areas identified in the 1987 Master Plan, and an increase in oversight and administration of Research Natural Areas. The Refuge would be nominated as a Wetland of International Importance (Ramsar). Guiding principles for habitat projects would be established and stress an integrated approach.

There would be an increase in effort to achieve continuous improvement in the quality of water flowing through the Refuge, including decreasing sedimentation. Pool-scale drawdowns would be accomplished by working with the Corps of Engineers and the states. The control of invasive plant species would increase, and there would be increased emphasis on the control of invasive animals. Environmental Pool



Northern Shoveler pair. Stan Bousson

Plans would be implemented on a strategic and opportunistic basis using the Environmental Management Program or other programs and funding sources. Wildlife inventory and monitoring would increase and include more species groups beyond the current focus of waterfowl, colonial nesting birds, eagles, and aquatic invertebrates/vegetation. The management of threatened and endangered species would focus on helping recovery, not just protection. The furbearer trapping program would continue but be brought into compliance with policies by writing a new plan. The Refuge would become much more active in fishery and mussel management, and provide commercial fishing oversight. Knowledge of turtle ecology through research would increase, as would turtle conservation efforts in cooperation with the states and Corps of Engineers. A forest inventory on the Refuge would be completed in cooperation with the Corps of Engineers, and a forest management plan prepared, leading to more active forest management. The 5,700 acres of grassland habitat on the Refuge would be maintained and enhanced using fire and other tools.

There would be a continuation of hunting and fishing opportunities on a large percentage of the Refuge. The system of waterfowl hunting closed areas would change with some eliminated, some reduced in size, and several new areas added for a total of 21 closed areas. Motorized watercraft and entry into closed areas for fishing, along with hunting, trapping, and camping would be prohibited during the respective state duck season, although the voluntary avoidance area on Lake Onalaska would remain in place. The firing line issue north of the closed area in Lake Onalaska would be addressed by initiating the Gibbs Lake Managed Hunting Program involving a limit to the number of hunters through drawing, assigning hunters to areas, and charging a fee. The current Refuge-wide hunting regulations would be changed to include a 25 shotshell limit during the waterfowl season and a 100-yard waterfowl hunting party spacing requirement, and a provision to address open water hunting in portions of Pools 9 and 11. Permanent blinds for waterfowl hunting would be eliminated Refuge wide, including those used in the Potter's Marsh and Blanding Landing managed hunts in the Savanna District. The Potter's Marsh managed hunt would continue with administrative changes to promote fairness and efficiency. The Blanding Landing managed hunt would be eliminated, but the area would remain open to hunting. General fishing would continue to be promoted, although the Refuge would begin issuing permits for fishing tournaments in cooperation with the states and other agencies.

There would be an increase in facilities and programming for wildlife observation, photography, interpretation and environmental education. There would be a modest increase in Refuge access through new facilities and improvement of existing boat ramps, pull offs, and overlooks. A boat launch fee would be initiated on Refuge-operated boat ramps. New standards for the commercial fish floats or piers below locks and dams 6, 7, 8, and 9 would be developed and implemented, with a phase out of floats which do not meet the standards. A consistent process for issuing permits for commercial guiding on the Refuge would be implemented. Areas open to beach-related public use (camping, swimming, picnicking, social gatherings) would be reduced to some degree under an "open-unless-closed" policy, new regulations would be implemented, and a beach maintenance policy established. Initiating a Refuge Recreation Use Permit and fee would be explored to defray costs of managing beach-related uses. A total of 16 electric motor areas and 9 new slow, no-wake zones would be established. Current regulations on the use of dogs would be changed to allow dogs to be exercised and trained under certain conditions. General public use regulations would be reviewed annually and changed as needed.

New offices and maintenance shops would be constructed at the Winona, La Crosse, and McGregor districts, and at the Lost Mound Unit. The office would be expanded at the Savanna District and a new shop constructed. Public information and awareness efforts would be increased 50 percent. Staffing levels for the Refuge would increase by 19.5 full-time equivalents with a balance among biological, maintenance, visitor services, technical, and administrative staff.

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 with the Corps of Engineers, re-survey and post the entire Refuge boundary 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, 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.

Strategies

- # Enter into a joint Service/Corps of Engineers project to complete a cadastral survey of the Refuge boundary.
- # With the Corps of Engineers, complete a survey plan of action to prioritize and schedule the completion of the survey by 2020.
- # Seek the funding necessary for the survey work.
- # Also with the Corps of Engineers, review, update, and publish a new Land Use Allocation Plan for lands within the Refuge (see Chapter 1, section 1.4.3.1 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 (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 the habitat connectivity needed for the health of many species. The Refuge currently ranks 6th 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

- # Seek consistent Land and Water Conservation Fund appropriations to meet the objective (approximately \$1.5 million per year at \$1,500 per acre).
- # Explore land exchanges with the states to remove intermingled ownerships.
- # 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, Appendix G.)

Rationale: There have been no acquisitions of bluffland areas since first identified in the 1987 Master Plan, and this objective represents a more aggressive approach to safeguarding the wildlife values of these areas. In recent years, peregrines 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.

Strategies

- # 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.
- # Work with the state, local governments, and private land trusts to protect bluffland habitat and scenic values.
- # Work with local units of government to encourage zoning regulations which protect bluffland scenic qualities.
- # 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 P and Table 7 on page 229.) 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 of the existing Research Natural Areas. Although the main goal of the area designation is the preservation of unique floodplain forest areas, preservation is a form 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 treaty stemming from the Ramsar Convention and reflected in this integrated alternative. Designation would

also foster the sharing of scientific information and elevate management attention when facing future needs and challenges.

Strategies

- # 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).
- # Seek cooperative research and monitoring opportunities with other agencies and colleges and universities.
- # Ensure yearly review of Research Natural Area boundaries to ensure integrity of the areas.
- # 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 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

- # 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.
- # Increase conservation assistance agreements with Soil and Water Conservation Districts and Resource Conservation and Development boards.
- # Cooperate with local government land use planning efforts to ensure that water quality impacts to the Refuge are considered.
- # Emphasize water quality aspects, especially sediment deposit in backwaters, in all habitat enhancement projects.

- # Link the planning and projects for tributary watersheds to Pool Plan implementation using the latest GIS-based mapping and modeling.
- # Support cooperative water quality monitoring and improvement efforts through the Upper Mississippi River Conservation Committee and other groups and agencies.
- # Continue to stress the importance of water quality in public information and interpretation, and environmental education programs.

Objective 2.2.

Water Level Management. By 2021, complete drawdowns of all Refuge pools during the summer growing season in coordination with the Corps of Engineers and states.

Rationale: Lowering the water levels in impoundments during the growing season is a proven management practice to dramatically 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. All pools would benefit from drawdowns. However, Pool 14 does not appear to be feasible in the 15-year horizon of this plan.

Strategies

- # Continue to work in partnership with the interagency water level management taskforce to plan, facilitate and prioritize drawdowns.
- # Inform and involve citizens through public meetings, workshops, and citizen advisory groups.
- # Seek all available funding sources to carry out needed recreational access dredging to lessen social and economic impacts during drawdowns (proposals in Corps of Engineers Navigation Study released in 2004 includes funding for drawdowns).
- # Explore options for funding an Access Trust Fund to ensure adequate funding when needed to accomplish drawdowns.

Objective 2.3.

Invasive Plants. By 2008, complete an invasive plant inventory and 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 first determining and mapping baseline information so that effective and efficient 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

- # Hire seasonal biological technicians to conduct an inventory and prepare baseline maps of invasive plant infestations.
- # Write an invasive plant control and management plan (integrated pest management plan) that identifies priority areas and methods of control.
- # Seek seasonal staff and funding to accelerate current control and applied research efforts through interagency partnerships, volunteer programs, and public education.
- # 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.
- # Take advantage of periodic invasive grant, cost-sharing, or special funding opportunities offered through the Service or other agencies and foundations.
- # 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

- # Implement other objectives and strategies in this plan 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.
- # Continue to work with other agencies in developing effective regulations, barriers, biological controls, or other means to reduce introduction and spread of invasives.
- # Explore new and creative ways to expand the harvest of invasive fish by commercial fishing, such as a bonus payment to enhance market price.

- # 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, implement at least 30 percent of the Refuge-priority Environmental Pool Plan actions and strategies in Pools 4-14 as summarized in Table 4 on page 196 (see Appendix N 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 4 on page 196. 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

- # 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.
- # Continue to work for full and expanded funding of the Environmental Management Program through public and Congressional information and outreach.
- # Take advantage of any new funding sources that emerge, such as appropriations from Congress for implementing the Navigation Study ecosystem restoration recommendations.

Objective 3.2.

Guiding Principles for Habitat Management Programs. Upon approval of the CCP, adopt and use the following guiding principles when designing or providing input to design and construction of habitat enhancement projects:

- 1.) Management practices will restore or mimic natural ecosystem processes or functions to promote a diversity of habitat and minimize operations and maintenance costs.
- 2.) Maintenance and operation costs of projects will be weighed carefully since annual budgets for these items are not guaranteed.

- 3.) 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.
- 4.) 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.
- 5.) 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 will design 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

- # 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.

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 planning 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

- # Engage other experts and partners to develop and implement the Wildlife Inventory Plan.

- # 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.
- # Continue to work with the states, U.S. Geological Survey, and Corps of Engineers in the sharing of data on other species and habitats.
- # Establish a schedule of formal coordination meetings with the U.S. Geological Survey to share biological monitoring methods and data.
- # Ensure that each District has a biologist on staff and that Headquarters has a GIS biologist.
- # Seek more cooperation with colleges and universities to foster more graduate research projects.
- # Continue to use volunteers for certain monitoring efforts such as the breeding bird survey point counts.
- # Complete a Habitat Management Plan which integrates species status and trends with the Environmental Pool Plans (Objective 3.1).

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 help ensure their recovery.

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 pearlymussel, eastern massasauga rattlesnake, and Sheepnose mussel.

Strategies

- # Consider the needs of threatened, endangered and candidate species in all habitat and public use management decisions.
- # Continue to consult with the Service’s Ecological Services Offices on all actions which may affect listed species.
- # In Wildlife Inventory Plan, address monitoring plan for all listed or candidate species, and other species of management concern to help preclude listing.
- # Continue monitoring Bald Eagle nesting populations and success.
- # In 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.
- # Give priority to acquisition of lands within approved boundary that contain listed or candidate species.
- # Continue assistance to other offices and agencies with Higgins eye pearlymussel recovery efforts.
- # 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.

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. 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

- # The Refuge wildlife biologists, in consultation with Refuge District managers and state furbearer biologists will develop a revised trapping plan for approval by the Refuge manager.
- # Afford the public an opportunity for review and comment on the plan.
- # Complete a new compatibility determination for public review and comment.

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 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

- # Add a fishery biologist to the Headquarters staff to coordinate fishery and mussel management on the Refuge.
- # 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 2009, begin issuing Refuge special use permits in addition to state-required permits for commercial fishing and clamming.

Rationale: The Refuge has provided little to no oversight of the commercial harvest of fish or mussels in the past. 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.

Strategies

- # 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.
- # Devise a Refuge permitting process that dovetails with state permits so that commercial users receive only one permit versus two.
- # Enter into cooperative agreements as needed to implement this one-stop-shopping permit process.
- # 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).

Objective 3.8.

Turtle Management. By spring 2007, initiate a 3-5 year turtle ecology study on representative habitats of the entire Refuge. Continue to cooperate with the states 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 8 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 to guide a coordinated approach to their conservation, and to guide management decisions concerning public uses in or on important turtle habitats. A comprehensive study would provide this information.

Strategies

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

- # 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 of Engineers-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

- # As Refuge funding allows, continue to fund seasonal technicians to help with the Corps of Engineers' inventory project on Service-acquired lands.
- # Continue to work with the Corps of Engineers and other partners on forest rejuvenation and research projects.
- # Continue small scale reforestation, especially mast-producing hardwoods, on suitable Refuge lands.
- # 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, and by 2008, 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. Active management is needed to curb loss of grasslands to forest succession or invasive species, and to maintain species diversity and health. Healthy grasslands benefit a variety of public uses including wildlife observation, plant study, photography, and hunting.

Strategies

- # Implement the Refuge's Fire Management Plan.
- # 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 reseeded as appropriate to the site.
- # 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 180,626 acres (75 percent) of land and water of the Refuge open to all hunting in accordance with respective state seasons, and add 6 new administrative No Hunting Zones for a total of 5,404 acres. See related Objective 4.2 on Waterfowl Closed Areas. (See Table 2 and Table 10 in Appendix H and maps in Appendix P)

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 six new No Hunting Zones are for safety reasons or to minimize conflict between user groups. One is at Sturgeon Slough, Pool 10 (66 acres), which contains a fairly new hiking trail off a major highway, and the other is at Crooked Slough proper, Pool 13 (192 acres) to avoid conflicts and address safety concerns in a relatively narrow corridor popular with anglers.

Strategies

- # 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.
- # To minimize potential conflicts between user groups, no hunting should occur on the Refuge prior to September 1 of each year and all hunting should end March 15, except for spring Wild Turkey hunting.
- # Continue to publish the Refuge Hunting Regulations brochure to inform the public of hunting opportunities and Refuge-specific regulations.
- # Continue to improve the hunting experience by ongoing improvements to habitat and enforcement of regulations.
- # Review the 1989 Refuge Hunting Plan and modify as needed to comply with new regulations and policies.
- # Clearly sign areas closed to hunting and ensure public notification through news releases and other means well before the hunting seasons.

Objective 4.2.

Waterfowl Hunting Closed Areas. In fall 2006, implement the following changes to the current Waterfowl Closed Area system on the Refuge:

- 1.) Add five new Closed Areas and delete or modify some of the current 15, for a total of 21 areas totaling 43,704 acres, or 791 acres more than current area (see Table 10 and Table 11 in Appendix H, and maps in Appendix P).
- 2.) The following areas would be closed to all entry and use from October 1 to the end of the respective state regular duck season:
 - a) Pool Slough Sanctuary (McGregor District, Pool 9, Iowa/Minnesota)
 - b) Guttenberg Ponds portion of the 12 Mile Slough Sanctuary (McGregor District, Pool 11, Iowa)
 - c) Spring Lake Sanctuary (Savanna District, Pool 13, Illinois)
- 3.) All other Waterfowl Closed Areas, except on Lake Onalaska, would be closed to all fishing, except bank fishing, and all motorized watercraft, from October 1 to the end of the respective state regular duck season.
- 4.) The current Lake Onalaska Closed Area and associated Voluntary Waterfowl Avoidance Area would not be affected, although boundary adjustments would be made.

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:

- 1.) Provide migrating waterfowl a more balanced and effective network of feeding and resting areas.
- 2.) Minimize disturbance to feeding and resting waterfowl in closed areas.
- 3.) Provide waterfowl hunters with more equitable hunting opportunities over the length of the Refuge.
- 4.) Reduce hunter competition and waterfowl crippling loss along some closed area boundaries.
- 5.) Stabilize boundaries 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, Section 1.4.5.4 on page 23., and analyzed in Chapter 3, Section 3.2.7 on page 235. The five 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 shows that this alternative objective would provide a 16 percent increase in total energy available to waterfowl in the Closed Area system (this report is available at Refuge headquarters or on the Refuge planning web site: <http://midwest.fws.gov/planning/uppermiss/index.html>).

The Closed Area locations and configurations in this alternative 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. No change was made in entry regulations for the Lake Onalaska closed area to provide a useful control area to measure differences in effectiveness of mandatory no

fishing and no motorized watercraft versus voluntary compliance as presented in the current 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.

Strategies

- # Improve habitat in all Closed Areas by ongoing programs such as pool drawdowns, Environmental Management Program projects, and other agency initiatives and regulations.
- # Continue to monitor waterfowl use of Closed Areas through weekly aerial surveys in the fall.
- # Monitor the frequency and effect of disturbance by commercial, public, and agency entry into Closed Areas.
- # 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, signing, news releases, websites, and media interviews.
- # Post boundaries of new or modified closed areas well in advance of the waterfowl hunting season to help with public awareness.
- # 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 2006.

Objective 4.3

Waterfowl Hunting Regulation Changes. In fall 2006, implement the following Refuge-specific waterfowl hunting regulation changes: (See Appendix I for current regulations)

- 1.) All hunters may possess no more than 25 shotshells during the respective statewide waterfowl season.
- 2.) Waterfowl hunting parties shall maintain at least 100 yards spacing between each other. A party is defined as one or more persons hunting together from a boat or stationary location.
- 3.) Open-water hunting is prohibited on an area of Pool 9 near Ferryville and Cold Springs (river miles 652-658), and an area of Pool 11 (river miles 586-591), both in Wisconsin.

Rationale: The shotshell limit is designed to curb the excessive out-of-range shooting or "skybusting" that occurs throughout the Refuge to varying degrees. Skybusting can have a marked effect on the number of birds crippled and unretrieved, and disrupts the hunting for those who favor working birds with decoy sets. A shell limit will decrease skybusting by providing an incentive (longer hunting experience) for making judicious shooting decisions. The shell limit is reasonable and above limits imposed at other heavily-used public hunting areas and national wildlife refuges. The hunting party spacing regulation is designed to improve the waterfowl hunting experience by reducing the conflict and competition between hunting parties that can occur in favored areas of the Refuge. Refuge officers have observed, and received complaints about, crowding and its disruption to

hunters favoring decoy hunting, and its contribution to skybusting and confrontations between hunters. The Refuge Manual (8 RM 5) encourages managers to space hunters appropriately to the situation. The 100 yard minimum is less than the standard 200 yards used on many public hunting areas, but is deemed appropriate for this Refuge. Collectively, these two regulations represent a balanced approach to the conservation of waterfowl through reducing crippling loss, and by improving the hunting experience through spacing of hunters.

The prohibition of open-water hunting is to limit disturbance in areas of Pools 9 and 11 that have become important feeding and loafing sites for hundreds of thousands of canvasback and lesser scaup ducks, two species of management concern due to relatively small or declining populations. In Pool 9, the Refuge prohibition is additional insurance for safeguarding waterfowl use of the area into the future since Wisconsin regulations currently prohibit open water hunting. In Pool 11, 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 scaup, which fed on abundant fingernail clam. When the fingernail clams collapsed, waterfowl use virtually ceased. In recent years, wild celery has become established and the area is attracting large 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. The open water prohibition would be pre-emptive since virtually no open water hunting (skull boats) is happening at this time, but is likely as habitat improves and birds increase.

Strategies

- # 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, signing, news releases, websites, and media interviews.
- # 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 2006.
- # Maintain or improve habitat in Pools 9 and 11 through ongoing programs such as pool drawdowns, habitat enhancement projects, and other agency initiatives and regulations.
- # Continue to monitor waterfowl use of these areas through weekly aerial surveys in the fall.

Objective 4.4.

Firing Line – Pool 7, Lake Onalaska. Implement a managed hunting program in a 230-acre area delineated at the north end of Lake Onalaska in 2006 to reduce and/or eliminate “skybusting” and associated crippling of waterfowl, competition between hunters for prime hunting sites, and other unsportsmanlike behavior in the Barrel Blinds area of Pool 7. This will be known as the Gibbs Lake Managed Hunting Program. (See map, Alternative D, Appendix P, La Crosse District)

Rationale: The Refuge's Closed Area System was designed to disperse waterfowl hunting opportunity. Hunters tend to congregate near

concentrations of waterfowl. Some sections of the closed area boundary, particularly those that bisect emergent marsh, are popular and can attract large concentrations of hunters as they wait for waterfowl to leave closed areas. Pass shooting is the technique most often used along the Barrel Blinds firing line. Unfortunately, “skybusting,” or shooting at birds out of range, often results in increased crippling loss. For example, 63 of 141 (44.7 percent) hunting parties observed by law enforcement personnel during the 1991-93 seasons hunting 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 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 by spending the night, handing-off sites to friends or co-workers after a party’s hunt is over, 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.”

The Refuge looked at several options for improving the hunting experience in this 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. However, all had shortcomings in this particular area compared to a managed hunt program.

Strategies

- # 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, signing, news releases, websites, and media interviews to ensure that hunters accustomed to hunting in this area have ample opportunity to find new hunting sites, if desired. Conversely, hunters who have not had a chance to hunt in this area will also learn about this new opportunity.
- # Prepare a hunt-specific leaflet or fact sheet explaining the change and new regulations.

- # Post and sign the new hunt area boundary well in advance of the hunting seasons.
- # Increase law enforcement presence to help ensure understanding and to monitor and refine the hunt as needed.
- # Implement the Gibbs Lake Managed Hunting Program per the following details:
 1. Hunter selection through a pre-season drawing with each applicant limited to one opportunity through the drawing. Each applicant may apply for up to three dates with selection by order of preference. Only successful applicants will be notified. Hunting sites determined by a daily drawing. If successful applicants are not present on their scheduled day, remaining sites would be made available to stand-bys or walk-ins through a drawing.
 2. All hunting would be done next to the assigned stake. Hunters can use temporary blinds per Refuge regulation.
 3. The registered hunter can bring one guest for a total party size of two. A daily permit will be issued to each hunter.
 4. Two Saturdays during the month of October will be designated as “family days” to provide better opportunities for young hunters, ages 12-15, accompanied by a parent or guardian, to participate. The fee will be waived on “family days” for parents and young hunters, and the party size will be increased to three on these two dates for parties meeting the requirements. If sites are not filled by parents and young hunters, they will be filled by other hunters through a drawing. All area regulations apply on “family days.”
 5. Each hunting party has use of a site for the full day. Sites would not be refilled if a party leaves.
 6. Program-specific regulations include a shotshell possession limit of 25 per hunter. A 100-yard retrieval zone would be implemented within the adjoining Lake Onalaska Closed Area to limit disturbance to waterfowl.
 7. The managed hunt would be operational through the first 45 days of a 60-day hunting season. Thereafter, sites would be available on a first-come basis with all Gibbs Lake Managed Hunting Program regulations remaining in effect. No other hunting would be allowed in the Gibbs Lake Managed Hunting Area while the duck hunting season is underway.
 8. The exact size, location, and configuration of the Gibbs Lake Managed Hunting Area and the number of hunting sites have not been determined. That will be done later in the field. However, an estimated size as depicted on planning maps is 230 acres (Appendix P). Based on Service hunting program guidelines, past use patterns, and other criteria, it appears that 12-15 hunting parties can be accommodated per day within the managed hunting area and meet program goals.
 9. The cost to operate the Gibbs Lake Managed Hunting Program is estimated at nearly \$25,000 for a 60-day duck hunting season. To pay for the program, participating hunters will be charged a fee. This fee ranges from \$18-23 per hunter per day depending on program costs and the final number of hunting sites. As the program is refined, a final fee will be determined.

Objective 4.5.

Permanent Hunting Blinds on Savanna District. Phase-out the use of permanent hunting blinds for waterfowl hunting within the Savanna District of the Refuge. Permanent blinds will no longer be allowed on the Refuge in Pool 12 after the 2006-07 season, Pool 13 after the 2007-08 season, and Pool 14 after the 2008-09 season. (See Table 17 in Appendix H and maps in Appendix P, Savanna District.)

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 were discussed more fully in Chapter 1, Section 1.4.5.4. This objective would also reduce the staff time spent on law enforcement, complaints, and clean-up, which permanent blinds entail, time which 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 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.

Strategies

- # Conduct public information campaign to inform the public of the change and to give hunters who have become accustomed to the blinds a chance to adapt to alternative hunting methods or areas.
- # Prepare and distribute a leaflet explaining the change and regulations for temporary blinds.
- # Begin phase in of regulations by requiring hunters to comply with the following requirements the year before a respective pool is scheduled for permanent-blind phase-out:
 1. Blinds must be marked with name and address of owner.
 2. All blind material 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. 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 2007-08 season, but boat-blind sites provided and managed. (See Table 17 in Appendix H and maps in Appendix P, Pool 13.)

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 issue discussion, Chapter 1, Section 1.4.5.4).

Strategies

- # Implement the following for the 2006 waterfowl hunting season:
 1. Refuge will mark with numbered stakes 49 hunting areas (same number as current); blinds must be set up within 25 feet of stake.
 2. Blind sites must be occupied one-half hour prior to shooting time or they will be open to the public first-come, first-served.
 3. A 400-yard closed area restriction on west boundary of Potter's Marsh will be maintained (491 acres) to prevent encroachment from other public hunting.
- # Implement the following regulation changes for the 2008 season:
 1. Permanent blinds will not be allowed. Only boat blinds in accordance with Refuge temporary-blind regulations.
 2. Refuge will continue to mark 49 hunting areas and boat blinds must be set up within 25 feet of stake.
- # Implement the following application and drawing procedure changes for the 2006 season:
 1. 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 .
 2. Applicant must be present at drawing.
 3. Applicant must have current Firearm Owners Identification if Illinois resident, and current year license and state and federal duck stamps.
 4. Applicants must be 16 years of age by date of drawing.
 5. Applications accepted 10 a.m. to 2 p.m. with drawing at 2 p.m.
 6. Successful applicant receives boat-blind site for entire season.
 7. Application fee \$10, plus \$100 fee for successful applicants.
- # Conduct public information campaign beginning at least one year prior to implementation 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. 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. (See Table 17 in Appendix H and maps in Appendix P, Pool 12)

Rationale: 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

- # Conduct 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 110,611 acres of surface water within the Refuge, and an additional 32,750 acres of Waterfowl Closed Areas 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 3 new fishing piers or docks for a total of 18. (See Table 10 and Table 13 in Appendix H and maps in Appendix P.)

Rationale: This objective represents the current areas available and open to fishing, tempered by the proposed no entry regulation for Closed Areas in this alternative (Objective 4.2) which would prohibit fishing on 32,750 acres during the respective state duck hunting season. 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 alternative. These facilities offer fishing opportunities for those without boats.

Strategies

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

Objective 4.9.

Fishing Tournaments. By January 2008, develop a plan for issuing Refuge Special Use Permits in addition to, or in conjunction with, state-issued permits for all fishing tournaments occurring on the Refuge.

Rationale: Fishing tournaments are a use, and at times a commercial use, of the Refuge and subject to regulations governing uses of national wildlife refuges. The Refuge has not provided any oversight to this use, deferring to the states’ regulatory and permitting processes. In an integrated approach, permitting would benefit both the resource and the public. Refuge permitting would provide oversight to protect sensitive habitat and wildlife areas from the possible physical and disturbance impacts of fishing tournaments, and

help reduce disturbance and conflict with general public fishing. Through permitting, the Refuge could also play a coordination role given the interstate nature of the Refuge and the river.

Strategies

- # Meet with the states and the Corps of Engineers to discuss the best strategies for implementing a Refuge permit process in concert with their permitting procedures.
- # Develop with the states and the Corps of Engineers as appropriate time, space, and capacity parameters on each Pool within the Refuge, and definitions for what constitutes a fishing tournament.
- # Develop outreach plan to involve and inform fishing tournament organizations or sponsors with changes in regulations and procedures.

Objective 4.10.

Wildlife Observation and Photography. Maintain the following existing and new facilities to foster wildlife observation and photography opportunities: 26 observation decks and areas, 3 observation tower, 3 photography blinds, 16 hiking trails, 21 canoe trails, 5 biking trails, and 3 auto tour routes. (See Tables 3, 4, 5, 15 and 19 maps in Appendix P)

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 observation decks (+11), observation towers (+3), photography blinds (+3), hiking trails (+10), canoe trails (+17), biking trails (+2), and auto tour routes (+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

- # Schedule annual inspection and maintenance of the facilities.
- # Ensure adequate signing and information in brochures, websites, and maps so the public is aware of the facilities.
- # Continue to promote the wildlife observation and photography opportunities of the Refuge through public education, outreach, special programs, and partnerships with the states, Corps of Engineers and private conservation groups.
- # Enhance observation and photography opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
- # 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 (+43) (see Table 16 in Appendix H and maps in Appendix P for details) and build new district offices with visitor contact facilities at McGregor, Winona, La Crosse, and the Lost Mound Unit. Continue to print and distribute 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.

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 U.S., and would provide the visitor 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 as staff are added.

Strategies

- # 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.
- # 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.
- # Participate in national interpretive events such as National Wildlife Refuge Week or Migratory Bird Day for efficiency and effectiveness.
- # Schedule quarterly review of interpretive signs and conduct maintenance and sign replacement as needed.
- # 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.
- # Continue to locate 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 4 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, and do not replace. (See Table 12 in Appendix H and maps in Appendix P)

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.

Strategies

- # Draft new standards well in advance of implementation and give fish float owners/operators a chance to review and comment.
- # Continue yearly coordination meeting with float owners and operator to address concerns and permit conditions.
- # Continue enforcement of permit stipulations and suspend permits of those operations not meeting the stipulations.
- # Inspect facilities for safety at least once yearly.
- # If any floats are phased out due to non-compliance with permit stipulations, ensure adequate public notice so clients can seek alternate opportunities.
- # Although phased-out operations will not be replaced, explore other off-refuge alternatives, such as fishing barges, to provide similar fishing opportunities.

Objective 4.13

Guiding Services. In spring 2007, begin implementing 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

- # Work with the states to ensure coordination and some degree of consistency with their guide licensing requirements and procedures.
- # Conduct public information effort through news releases and media contacts to implement the objective.
- # Provide proactive enforcement through Refuge law enforcement officers and information provided by others in the law enforcement community.

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, implement a new “open-unless-closed” policy for beach-related uses such as camping, mooring, picnicking, and social gatherings as outlined below. Other existing public use regulations (see Appendix J) will remain in effect.

- 1.) *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 officers
 - c) minimize impacts to wildlife and the Refuge environment
 - d) minimize conflicts with wildlife-dependent uses
 - 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

- 2.) *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 new Refuge Public Use Regulations, unless specifically restricted or closed by appropriate signing. Based on clearly articulated reasons approved by the Refuge Manager, District Managers may close or restrict use on certain beach and other shoreline areas to minimize or eliminate chronic problems or safeguard wildlife or habitat values. Examples of restrictions or closures include:
 - a) Day Use Only Beaches. Open to allowed uses during daylight hours only in accordance with Refuge Public Use Regulations.
 - b) No Alcohol Beaches. Open to day use and camping, but no alcoholic beverages allowed.
 - c) Wildlife Beaches. Closed to entry and use from April 1 to September 15 to protect sensitive wildlife needs such as turtle nesting or migratory bird nesting, feeding and loafing.
 - d) Sensitive Habitat Area. Closed to all entry and use from April 1 to September 15, or if warranted, closed year around.

- 3.) *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) will remain in effect, except by April 1, 2007, the following regulation changes will be implemented:
 - a) Camping is limited to islands, peninsulas, or other lands that border the main river channel, including the backside of such areas, and in Electric Motor Areas. 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) All campers must have access to either a portable or approved, marine onboard toilet facility, or have in their possession a commercial human waste disposal kit for each person. All human solid waste and associated material, along with any personal property, refuse, trash, and litter, shall be removed immediately upon vacating a site.
 - c) Entering or remaining on the Refuge when under the influence of alcohol will remain prohibited, but under the influence will be defined as a blood alcohol content of .08 percent blood alcohol content. In addition, develop a public intoxication regulation that gives officers a tool to deal with unruly behavior.
- 4.) *Beach Maintenance Policy.* Maintenance of beaches will only be allowed on remnant spoil islands or existing dredge material disposal sites adjacent to the main channel of the river that are designated “low density recreation” in current Land Use Allocation Plans, those not otherwise restricted or closed to use, and those not located in a Waterfowl Hunting Closed Area. Maintenance will 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 will 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.

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, litter and human waste, intoxication, unlawful and unruly behavior, officer and public safety, and preemptive use of preferred camping or hunting sites. This objective represents a truly integrated wildlife and public use approach, using time, space, and reasonable regulations and policy to ensure that beach-related uses are compatible with the fish, wildlife, and plant conservation purposes of the Refuge. Most current visitors will notice little difference in opportunity for beach-related uses. However, the regulations should improve the quality of visitors’ experience by ensuring better control of disruptive behavior. This objective also looks to the future by ensuring that the growing numbers of campers remain in less sensitive areas of the Refuge.

Strategies

- # Continue to work with the states and the Corps of Engineers through existing interagency workgroups to complete beach plans for each pool within the Refuge according to the policies and regulations above.
- # Conduct public information and education campaign well before implementation of regulation changes, to include news releases, general articles, fact sheets, and media interviews.

- # Use the components and principles of the Leave No Trace program in the campaign (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).
- # Develop a brochure which clearly explains new policies and regulations and answers frequently asked questions.
- # Continue to explore a user fee system to off-set costs of beach-related recreation such as camping in line with new fee legislation passed by Congress in 2004.
- # Refuge 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.

Objective 5.2.

Electric Motor Areas. Beginning spring, 2006, establish a total of 16 electric motor areas on the Refuge encompassing 14,498 acres. A 5 mph speed limit would also apply in these areas given anticipated future changes in technology. Primitive camping would be allowed in these areas. (See Table 13 in Appendix H, and maps in Appendix P)

Rationale: Technology in the form of jet skis, bass boats, shallow water motors such as Go-Devils™, airboats, and hovercraft has introduced more noise and user conflict to the backwater areas of the Refuge. This objective would help reduce disturbance to backwater fish nurseries and sensitive backwater wildlife such as raptors, colonial nesting birds, and furbearers in keeping with the wildlife mission of the Refuge. It would 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 alternative. This objective only affects the means of navigation, and all current uses would be allowed (fishing, hunting, observation, etc.) in accordance with current regulations or those proposed elsewhere in this alternative. The 14,498 acres represents about 6 percent of the Refuge.

Strategies

- # Conduct a public information campaign to inform and educate the public about pending electric motor area designations.
- # Clearly delineate electric motor areas on Refuge maps and by appropriate signing.

Objective 5.3.

Slow, No-Wake Zones. In 2006, add 10 new Refuge-administered slow, no-wake zones (brings total to 12) and assist local or other units of government in the enforcement of 43 other slow, no-wake zones within the Refuge. (See Table 18 in Appendix H, and map in Appendix P)

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 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.

Strategies

- # Work with local authorities to designate and mark slow, no-wake zones.
- # Communicate the changes with the public well in advance of implementation using the media and other means, and clearly show slow, no-wake areas 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:

“From March 1 to June 30, dogs are not allowed to run free and must be restrained by leash or other means. At other times, dogs are allowed to be free only under the following conditions: a) when at least 100 yards away from any designated Refuge public concentration area such as access roads, trail heads, trails, kiosks, rest areas, pull-offs, and boat landings, and, at least 100 yards away from another person not accompanying the owner/handler; and b) when within sight and voice control of the owner/handler. Hunting and retrieving dogs are exempt from these conditions while engaged in authorized hunting activities during the hunting season. Field trials or commercial/professional training is 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 and train their dogs, but protect wildlife during the sensitive nesting or young rearing season. 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

- # Publish the new regulation in the Refuge public use regulation brochure, issue news releases, and conduct other outreach prior to implementation in 2007.
- # Except in certain cases, 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 2006, 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).

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 is 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

- # Conduct review during Refuge law enforcement meetings.
- # Provide the public, states, and Corps of Engineers ample opportunity to review and comment on any new or substantially changed regulation.
- # Use national guidance and Federal Register process for codifying any changes and make part of the Code of Federal Regulations governing national wildlife refuges.
- # Update, print, and distribute the Public Use Regulations brochure.
- # Post pertinent regulations at boat landings and other public use areas, such as trail heads and beach areas.
- # 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 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 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

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

Objective 6.2.

Public Access Facilities. By 2021, add 1 new boat landing (total of 26), 3 new walk-in accesses, and 1 improved canoe landing. Improve 5 parking areas on the Refuge to support public use. (See Table 1 in Appendix H, and maps in Appendix P)

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 222 other public and private boat accesses that provide access to the Mississippi River or its tributaries, and thus the Refuge.

Strategies

- # Continue routine upkeep of boat accesses by Refuge staff, temporary employees and Youth Conservation Corps members when available, and volunteers.
- # Continue to modernize accesses using Maintenance Management System funding or special funding which is provided periodically, and by implementing a self-service boat launch fee at Refuge-operated boat ramps.
- # 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 the wildlife and integrated public use focus alternative.

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.

Strategies

- # None warranted.

Objective 6.4.

Public Information and Awareness. By 2007, 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 2020 increase information kiosks to 115 (+49) as shown in Table 16 in Appendix H, and maps in Appendix P.

Rationale: This objective reflects an emphasis on providing the public more information on both resource-related and public use-related aspects of the Refuge in keeping with a balanced approach.

Strategies

- # Hire visitor services specialists for those Districts without, namely Winona and McGregor Districts.
- # Hire a public information specialist at Headquarters to increase attention on interviews, news releases, and special events.
- # Tap other specialists identified in this alternative (e.g. forester, fishery biologist) for information and outreach on resource programs of the Refuge.

- # Continue to look for creative ways to leverage efforts and funding for public information.
- # Carry out related objectives dealing with trails, leaflets, websites and interpretive signs (see objectives 4.10 and 4.11).
- # 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 2015, increase staffing from current permanent, full-time level of 37 people to 59 people (56.5 full-time equivalents or FTEs) in a full range of disciplines which benefit both resource and public use objectives in this alternative. (See Table 2 at the end of this chapter and Table 20, Appendix H.)

Rationale: This objective reflects a balance approach to refuge management by providing operations and maintenance-funded staffing deemed necessary to meet the goals and objectives of this alternative. 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.

Strategies

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

2.4.6 Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)

Increase level of effort on fish and wildlife and habitat management. Take a proactive but balanced approach to public use management to ensure a diversity of opportunities for a broad spectrum of users, both for wildlife-dependent uses and traditional and appropriate non-wildlife-dependent uses.

Alternative E Summary

Boundary issues would be aggressively addressed and areas with greatest encroachment problems would be surveyed in cooperation with the Corps of Engineers. The rate of land acquisition would increase within the approved boundary to complete 58 percent of the total, an average of 1,000 acres per year. There would be more effort to protect through easements or fee-title acquisition all bluffland areas identified in the 1987 Master Plan, and an increase in oversight and administration of Research Natural Areas. The Refuge would be nominated as a Wetland of International Importance (Ramsar). Guiding principles for habitat projects would be established and would stress an integrated approach.



Mallard pair. Stan Bousson

There would be an increase in effort to achieve continuous improvement in the quality of water flowing through the Refuge, including decreasing sedimentation. Pool-scale drawdowns would be accomplished by working with the Corps of Engineers and the states. The control of invasive plant species would increase, and there would be increased emphasis on the control of invasive animals. Environmental Pool Plans would be implemented on a strategic and opportunistic basis using the Environmental Management Program or other programs and funding sources. Wildlife inventory and monitoring would increase and include more species groups beyond the current focus of waterfowl, colonial nesting birds, eagles,

secretive marsh birds, frogs and toads, and aquatic invertebrates/vegetation. The management of threatened and endangered species, including state-listed species, would focus on helping population recovery, not just protection. The furbearer trapping program would continue but be brought into compliance with policies by writing a new plan. The Refuge would become much more active in fishery and mussel management, and provide more input to the states on commercial fishing. Knowledge of turtle ecology through research would increase, as would turtle conservation efforts in cooperation with the states and Corps of Engineers. A forest inventory on the Refuge would be completed in cooperation with the Corps of Engineers, and a forest management plan prepared, leading to more active forest management. The 5,700 acres of grassland habitat on the Refuge would be maintained and enhanced using fire and other tools, and the Refuge would look at increasing grassland areas where appropriate due to its importance to grassland birds and other species.

There would be a continuation of hunting and fishing opportunities on a large percentage of the Refuge. The system of waterfowl hunting closed areas would change with some eliminated, some reduced in size, and several new areas added for a total of 20 closed areas and three sanctuaries. The public would be asked to practice Voluntary Avoidance in all closed areas from October 15 to the end of the respective state duck hunting season, and no motorized watercraft would be permitted in eight small closed areas during the same time period. The firing line issue north of the closed area in Lake Onalaska (Gibbs Lake area) would be addressed by completing a management plan in collaboration with waterfowl hunters and the State of Wisconsin. There would be no new shotshell possession limit or spacing requirement between parties for waterfowl hunters, and the 200-yard hunting party spacing for the Illinois side of the Refuge in Pools 12-14 would remain in place. There would be a provision for no open water waterfowl hunting in a portion of Pool 11, Grant County, Wisconsin, approximate river miles 586-592. In the Savanna District (Pools 12-14), permanent blinds for waterfowl hunting would be eliminated, including the Potter's Marsh and Blanding Landing areas, and leaving decoy sets out overnight will not be allowed. The Potter's Marsh managed hunt would continue with administrative changes to promote fairness and efficiency. The Blanding Landing managed hunt would be eliminated, but the area would remain open to hunting. General fishing would continue to be promoted, and the Refuge would provide some oversight on fishing tournaments in collaboration with the states and other agencies.

There would be an increase in facilities and programming for wildlife observation, photography, interpretation and environmental education. There would be a modest increase in Refuge access through new facilities and improvement of existing boat ramps, pull offs, and overlooks. There would be no launch fee on Refuge-operated boat ramps. New standards for the commercial fish floats or piers below locks and dams 6, 7, 8, and 9 would be developed and implemented, and any floats phased out for noncompliance may be replaced based on a review of new proposals. A consistent process for issuing permits for commercial guiding on the Refuge would be implemented in cooperation with the

states. Areas open to beach-related public use (camping, swimming, picnicking, social gatherings) would remain the same, although some new or modified regulations would be adopted. A beach management and maintenance policy would be established and the Refuge would work with the Corps of Engineers, states and the public to complete beach management plans for each river pool. The Refuge would explore a user fee to help defray costs of managing beach-related uses, although none is planned at this time. Any new fee proposals would be developed in coordination with other agencies and the public. A total of five Electric Motor Areas (1,852 acres) and eight Slow, No Wake Areas (9,720 acres) would be established, along with 11 new slow, no-wake zones. Current regulations on the use of dogs would be changed to allow dogs to be exercised under certain conditions. General public use regulations would be reviewed annually and changed as needed, and the Refuge would complete a step-down Law Enforcement Plan in coordination with the states and Corps of Engineers.

New offices and maintenance shops would be constructed at the Winona, La Crosse, and McGregor districts, and at the Lost Mound Unit. The office would be expanded at the Savanna District and a new shop constructed. Public information and awareness efforts would be increased 50 percent. Staffing levels for the Refuge would increase by 23.5 full-time equivalents over a 15-year period with a balance among biological, maintenance, visitor services, law enforcement, technical, and administrative staff.

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, 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 proposed in other alternatives to reflect the realities of survey time and costs.

Strategies

- # 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.
- # In collaboration with the Corps of Engineers, identify and prioritize boundary areas most in need of clarification by surveying and reposting.
- # Seek joint Corps of Engineers and Service funding to complete needed surveys based on priorities.

- # 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, section 1.4.3.1 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 (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

- # Seek consistent Land and Water Conservation Fund appropriations to meet the objective (approximately \$1.5 million per year at \$1,500 per acre).
- # Explore land exchanges with the states to remove intermingled ownerships.
- # 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.)

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

- # 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.
- # Work with the state, local governments, and private land trusts to protect bluffland habitat and scenic values.
- # Work with local units of government to encourage zoning regulations that protect bluffland scenic qualities.
- # 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 P and Table 7 on page 229) 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 alternative. 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

- # 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).
- # Seek cooperative research and monitoring opportunities with other agencies and colleges and universities.
- # Ensure yearly review of Research Natural Area boundaries to ensure integrity of the areas.
- # 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

- # 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.
- # 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.
- # Increase conservation assistance agreements with Soil and Water Conservation Districts and Resource Conservation and Development boards.
- # Begin a regular and recurring dialogue with U.S. Geological Survey scientists at the Upper Midwest Environmental Sciences Center, La Crosse, Wisconsin, to help devise and tune strategies specific to addressing sedimentation problems.

- # Cooperate with local government land use planning efforts to ensure that water quality impacts to the Refuge are considered.
- # Emphasize water quality aspects, especially sediment deposition in backwaters, in all habitat enhancement projects.
- # Link planning and projects for tributary watersheds to Environmental Pool Plan implementation using the latest GIS-based mapping and modeling.
- # Support cooperative water quality monitoring and improvement efforts through the Upper Mississippi River Conservation Committee and other groups and agencies.
- # 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

- # Continue to work in partnership with the Water Level Management Task Force to plan, facilitate, and prioritize drawdowns.
- # Inform and involve citizens through public meetings, workshops, and citizen advisory groups.
- # Seek all available funding sources to carry out needed recreational access dredging to lessen social and economic impacts during drawdowns (proposals in Corps of Engineers Navigation Study released in 2004 includes funding for drawdowns).
- # 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

- # Hire seasonal biological technicians to conduct an inventory and prepare baseline maps of invasive plant infestations.
- # Write an invasive plant control and management plan (integrated pest management plan) that identifies priority areas and methods of control.
- # Seek seasonal staff and funding to accelerate current control and applied research efforts through interagency partnerships, volunteer programs, and public education.
- # 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.
- # Continue coordination with the Corps of Engineers on efforts to control invasive forest plants through their operations and maintenance program and other potential authorities.
- # Take advantage of periodic invasive grant, cost-sharing, or special funding opportunities offered through the Service or other agencies and foundations.
- # 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

- # 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.
- # Continue to seek ways to help the states implement their Aquatic Nuisance Species plans and consider and incorporate these plans in Refuge invasives efforts.
- # 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).
- # 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*).
- # 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.
- # Continue to work with other agencies in developing effective regulations, barriers, biological controls, or other means to reduce introduction and spread of invasives.
- # Explore new and creative ways to expand the harvest of invasive fish by commercial fishing, such as a bonus payment to enhance market price.
- # 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 4 on page 196 (see Appendix N 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 4 on page 196. 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

- # 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.
- # Continue to work for full and expanded funding of the Environmental Management Program through public and Congressional information and outreach.
- # Continue to seek opportunities through the Corps of Engineers’ Channel Maintenance Program to implement certain aspects of pool plans.
- # 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.
- # 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. Upon approval of the CCP, adopt and use the following guiding principles when designing or providing input to design and construction of habitat enhancement projects:

- 1.) 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.
- 2.) Maintenance and operation costs of projects will be weighed carefully since annual budgets for these items are not guaranteed.
- 3.) 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.
- 4.) 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.
- 5.) 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

- # 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 planning 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

- # Engage other experts and partners to develop and implement the Wildlife Inventory Plan.
- # 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.
- # 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.
- # Continue to work with the states, U.S. Geological Survey, and Corps of Engineers in the sharing of data on other species and habitats.
- # Establish a schedule of formal coordination meetings with the U.S. Geological Survey to share biological monitoring methods and data.
- # Ensure that each District has a biologist on staff and that Headquarters has a GIS biologist.
- # Seek more cooperation with colleges and universities to foster more graduate research projects.

- # 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 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

- # Consider the needs of federal and state-listed threatened, endangered and candidate species, as applicable, in all habitat and public use management decisions.
- # 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.
- # 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.
- # Continue monitoring Bald Eagle nesting populations and success, and conduct periodic peak spring Bald Eagle migration counts.
- # 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.
- # Give priority to acquisition of lands within the approved boundary that contain listed or candidate species.
- # Continue assistance to other offices and agencies with Higgins eye pearl mussel recovery efforts.
- # 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

- # 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.
- # The Refuge wildlife biologists, in consultation with Refuge District managers, state furbearer biologists, and the Refuge Manager, will develop a draft trapping plan.
- # Afford the public an opportunity for review and comment on a draft plan and accompanying environmental assessment and compatibility determination.
- # Following public review and revision, submit a final plan to the Regional Director of the Service, Twin Cities, Minnesota, for approval (required).
- # 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

- # Add a fishery biologist to the Headquarters staff to coordinate fishery and mussel management on the Refuge.
- # Take an active role in Upper Mississippi River Conservation Committee fisheries technical section and mussel ad hoc committee.

- # 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

- # 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.
- # Devise a Refuge permitting process that dovetails with state permits so that commercial users need only one permit or license versus two.
- # Enter into cooperative agreements as needed to implement this one-stop-shopping permit process.
- # 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).
- # 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

- # In cooperation with the U.S. Geological Survey, seek special funding and grants to fund the turtle ecology study.
- # 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.
- # Through the Upper Mississippi River Conservation Committee, devise a method of sharing more detailed commercial turtle harvest information for the Refuge.
- # Upon completion of the turtle ecology study, complete a turtle management strategy and incorporate recommendations in habitat, commercial use, and public use management activities.
- # 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

- # 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.
- # 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.
- # Continue to work with the Corps of Engineers and other partners on forest rejuvenation and research projects.

- # Continue small scale reforestation, especially mast-producing hardwoods, on suitable Refuge lands.
- # 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

- # 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.
- # 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).
- # Implement the Refuge’s Fire Management Plan.
- # 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.
- # 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 187,205 acres (78 percent)² of land and water of the Refuge open to all hunting in accordance with respective state seasons, and add 3 new administrative No Hunting Zones totaling 290 acres. See related Objective 4.2 on Waterfowl Closed Areas. (See Table 2 in Appendix H and maps in Appendix P)

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 three new No Hunting Zones are for safety reasons or to minimize conflict between user groups. One 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 third is around the Goetz Island Trail, Pool 11 (32 acres) which connects to a trail in the City of Guttenberg, already a no hunting area by city ordinance. The decision to drop three proposed No Hunting Zones in this alternative was based on public and agency comment, evaluation of expected use patterns, prediction of low user-group conflict, or deletion of a proposed hiking trail. The No Hunting Zones in Alternative D dropped in this alternative were Dairyland Power Trail and Kain Switch Trail (Pool 9) and Turkey River Delta Trail (Pool 11). Total acreage of No Hunting Zone areas decreased from 5,404 acres in Alternative D to 3,845 acres in Alternative E. Also dropped in this alternative was the north expansion of the Goose Island No Hunting Zone or youth hunting area based on public comment.

Strategies

- # 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.
- # 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.
- # 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.
- # Continue to publish the Refuge Hunting Regulations brochure to inform the public of hunting opportunities and Refuge-specific regulations.
- # Continue to improve the hunting experience by ongoing improvements to habitat and enforcement of regulations.
- # Review the 1989 Refuge Hunting Plan and modify as needed by January 2007 to comply with new regulations and policies.

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2. *This acreage and percent is designed as a benchmark to denote the importance of hunting 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 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.*

- # 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:

- 1.) Add eight new Closed Areas/Sanctuaries and delete or modify some of the current 15, for a total of 23 units totaling 43,764 acres, or 780 acres less than current area (see Table 5 on page 208 and Table 11 in Appendix H, maps in Appendix P, and Appendix Q, which gives background and change rationale for each closed area):
- 2.) 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)
- 3.) 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).
- 4.) 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.
- 5.) 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:

- 1.) Provide migrating waterfowl a more balanced and effective network of feeding and resting areas.
- 2.) Minimize disturbance to feeding and resting waterfowl in closed areas.
- 3.) Provide waterfowl hunters with more equitable hunting opportunities over the length of the Refuge.
- 4.) Reduce hunter competition and waterfowl crippling loss along some closed area boundaries.
- 5.) 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, Section 1.4.5.4 on page 23, and analyzed in Chapter 3, Section 3.2.7 on page 235. 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 shows that Alternative D would provide a 16 percent increase in total energy available to waterfowl in the Closed Area system. Since Alternative E is a fine-tuning of Alternative D and core areas changed little, a similar increase in total energy available is expected. (The carrying capacity report is available at Refuge headquarters or on the Refuge planning web site: <http://midwest.fws.gov/planning/uppermiss>).

The Closed Area locations and configurations in this alternative 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.

Entry and use regulation and guideline changes from Alternative D reflect consideration of public and agency comments received during the first comment period. 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. Moving the effective date from October 1 in Alternative D to

October 15 in Alternative E 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) were modified since the paired concept was deemed overly complicated based on input and discussion at public meetings on draft Alternative E. The new configuration 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).

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

- # 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.
- # 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.
- # Monitor the frequency and effect of disturbance by the public in line with the disturbance threshold policy.
- # 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.
- # 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.
- # 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.
- # 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 P) 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 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 in Alternative D were dropped in Alternative E 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

- # 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.
- # 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.
- # Maintain or improve habitat in Pool 11 through ongoing programs such as pool drawdowns, habitat enhancement projects, and other agency initiatives and regulations.
- # Continue to monitor waterfowl use of Pool 11 through weekly aerial surveys in the fall.
- # 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 waterfowling and state managers and conservation officers, complete a step-down plan for the Gibbs Lake area of Pool 7 (see map, Appendix P). The plan should strive to address the following goals:

- 1.) Reduce competition and conflict in securing preferred hunting sites.
- 2.) Reduce pre-emptive use of choice hunting sites.
- 3.) Reduce crowding.
- 4.) Reduce skybusting (shooting at birds out-of-range) and resulting crippling or loss of downed birds.
- 5.) Improve the quality of the waterfowling experience.
- 6.) 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 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.”

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 Alternative D (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

- # Assemble a diverse group of waterfowl hunters familiar with the Gibbs Lake Area, and 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.
- # Ensure opportunity for public review and comment on the draft management plan.
- # 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 were discussed more fully in Chapter 1, Section 1.4.5.4. 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 was modified in this alternative to 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. Although including this change in the permanent blind objective was always the Refuge intent, it was inadvertently left out of previous alternatives. This change in decoy regulations for the Savanna District was discussed at public meetings, and written comments on the issue were received during the comment period.

Strategies

- # 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.
- # Prepare and distribute a leaflet explaining the new regulations governing temporary blinds and decoy use.
- # 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:
 1. Blinds must be marked with name, address, and telephone number of owner.
 2. 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, Section 1.4.5.4 on page 23).

Strategies

- # Implement the following for the 2006 waterfowl hunting season:
 1. The Refuge will mark with numbered stakes 49 hunting areas (same number as current); blinds must be set up within 25 feet of stake.
 2. Blind sites must be occupied one-half hour prior to shooting time or they will be open to the public first-come, first-served.

3. 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.
- # Implement the following regulation changes for the 2009 season:
 1. Permanent blinds will not be allowed. Only boat blinds in accordance with Refuge temporary-blind regulations.
 2. The Refuge will continue to mark 49 hunting areas and boat blinds must be set up within 25 feet of stake.
 - # Implement the following application and drawing procedure changes for the 2006 season:
 1. 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 .
 2. Applicant must be present at drawing.
 3. Applicant must have current Firearm Owners Identification if Illinois resident, and current year license and state and federal duck stamps.
 4. Applicants must be 16 years of age by date of drawing.
 5. Applications accepted 10 a.m. to 2 p.m. with drawing at 2 p.m.
 6. The successful applicant receives boat-blind site for entire season.
 7. Application fee \$10, plus \$100 fee for successful applicants.
 - # 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

- # 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 acres³ 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 three new fishing piers or docks by 2021 for a total of 20 (See Table 14 in Appendix H).

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 alternative. These facilities offer fishing opportunities for persons without boats. In Alternative E, the location of two fishing piers was changed following public review, but the total number remains the same.

Strategies

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

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.

3. 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.

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

- # 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.
- # 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.
- # Seek fishing tournament organization input in planning a permit allocation and application process, and ensure opportunity for public involvement and review.
- # 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 Tables in Appendix H and maps, Appendix P)

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

- # Schedule annual inspection and maintenance of the facilities.
- # Ensure adequate signing and information in brochures, websites, and maps so the public is aware of the facilities.
- # Continue to promote the wildlife observation and photography opportunities of the Refuge through public education, outreach, special programs, and partnerships with the states, Corps of Engineers and private conservation groups.

- # Enhance observation and photography opportunities on suitable areas of the Refuge through habitat, access, and facility improvements as outlined in other plan objectives.
- # 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 16 in Appendix H and maps, Appendix P)

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

- # 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.
- # 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.
- # Participate in national interpretive events such as National Wildlife Refuge Week or Migratory Bird Day for efficiency and effectiveness.
- # Conduct a quarterly condition review of interpretive signs and complete maintenance and sign replacement as needed.

- # 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.
- # 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

- # 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.
- # Continue yearly coordination meeting with float owners and operators to address concerns and permit conditions.
- # Continue enforcement of permit stipulations and suspend permits of those operations not meeting the stipulations.
- # Inspect facilities for safety at least once yearly.
- # 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

- # 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.
- # 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.
- # Conduct a public information effort through news releases and media contacts to implement the objective.
- # 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) will remain in effect.

- 1.) *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
- 2.) *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 3 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 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.

- 3.) *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) 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.”
- 4.) *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

- # Continue to work with the states and the Corps of Engineers through existing interagency 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.
- # Conduct a public information and education campaign well before implementation of regulation changes, to include news releases, general articles, fact sheets, and media interviews.
- # 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).
- # Explore a citizen "Adopt a Beach" program to help address beach maintenance and clean-up needs.
- # Develop a brochure that clearly explains new policies and regulations and answers frequently asked questions.
- # 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.
- # Continue to explore a user fee system to off-set 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.

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 13 in Appendix H, maps in Appendix P, and Appendix R, which contains more detailed area descriptions and rationales.) 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 keeping 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 alternative. 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 the public comment period on the supplemental EIS, 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 this alternative. This alternative also reflects the substantial public comment received about proposed electric motor areas and suggestions to use slow, no wake designations versus electric motor areas to meet concerns of wildlife disturbance and user conflict while not unduly restricting public access and use. Four areas originally proposed were dropped from any designation after further review and consideration of public comment.

Strategies

- # 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.
- # 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 18 in Appendix H and maps, Appendix P)

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. Public comment on the proposed Spring Lake speed limit and Crooked Slough slow, no wake regulation in Alternative D led to a change in this objective. The speed and distance regulation will address concerns of safety and user-conflict without unduly restricting boating use when no other boats are present.

Strategies

- # Work with local authorities to designate and mark slow, no wake zones.
- # 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. This regulation represents a change in wording, but not intent, from that proposed in the draft Alternative E, taking into account public comment and the need for clear, plain language. 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

- # Publish the new regulation in the Refuge public use regulation brochure, issue news releases, and conduct other outreach prior to implementation in 2007.
- # 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).

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

- # Complete a law enforcement step-down plan for the Refuge in cooperation with the states and the Corps of Engineers.

- # Conduct review during Refuge law enforcement meetings.
- # Provide the public, states, and Corps of Engineers ample opportunity to review and comment on any new or substantially changed regulation.
- # Follow national guidance for any changes affecting hunting and fishing and make part of the Code of Federal Regulations governing national wildlife refuges.
- # Update, print, and distribute the Public Use Regulations brochure.
- # Post pertinent regulations at boat landings and other public use areas, such as trail heads and beach areas.
- # 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

- # Ensure that Refuge office and maintenance needs are reflected in budget needs databases.
- # Work with the Refuge Friends Group to raise private funds for the Savanna expansion.
- # 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 1, Appendix H, and maps, Appendix P)

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

- # Continue routine upkeep of boat accesses by Refuge staff, temporary employees and Youth Conservation Corps members when available, and volunteers.
- # Continue to modernize accesses using Maintenance Management System funding or special funding which is provided periodically. Seek design input from users of the accesses.
- # 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

- # 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 16 in Appendix H and maps in Appendix P)

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.

Strategies

- # Hire visitor services specialists for those Districts without, namely Winona and McGregor Districts.
- # Hire a public information specialist at Headquarters to increase effort on interviews, news releases, and special events.
- # Tap other specialists identified in this alternative (e.g. forester, fishery biologist) for information and outreach on resource programs of the Refuge.
- # Continue to look for creative ways to leverage efforts and funding for public information.
- # Carry out related objectives dealing with trails, leaflets, websites and interpretive signs (see objectives 4.10 and 4.11).
- # 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.

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) was added in this alternative. 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

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

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
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, survey and post entire boundary by 2021. Boundary issues would be addressed in coordination with the Corps of Engineers, as appropriate.	Same as B	Same as B	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 2021 (58% of goal). Give highest priority to acquisition of lands and waters most important to fish and wildlife.	Same as B except give highest priority to acquisition of lands and waters most important for public recreation values and opportunities.	Same as B except give highest priority to acquisition of lands and waters most important to fish and wildlife, but consider public recreation values.	Same as D
<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 favor easements over fee-title acquisition.	Same as B, but favor fee-title acquisition over easements.	Same as B, but consider a blend of easements and fee-title acquisition.	Same as D

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
1.4 <i>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 and no Ramsar designation.	Same as A except increase effort to make public aware of values and management of Natural Areas by incorporating information in brochures, maps, and websites.	Same as B except increase effort to make public aware of values and management of Natural Areas by incorporating information in brochures, maps, and websites. Also, nominate Refuge as Wetland of International Significance under Ramsar.	Same as D
Goal 2. Environmental Health. Improve environmental health of the refuge by working with others.					
2.1 <i>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: - priv. 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.	Same as B except put emphasis on improving access for recreation when addressing sediment reduction projects in backwaters.	Same as B except ensure that fish and wildlife objectives are met while integrating public use needs such as access.	Same as D, but strategies expanded, especially for sedimentation, to include consultation with the U.S. Geological Survey and others.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>2.2 Water level management</i>	By 2021, complete drawdowns of Refuge pools.	Same as A except seek establishment of Access Trust Fund so drawdowns can be accomplished as needed based on habitat conditions.	Same as A	Same as B	By 2021, complete as many drawdowns of Refuge pools as practicable through the interagency workgroups based on ecological need and engineering feasibility. Retain Access Trust Fund provision from Alternative B.
<i>2.3 Invasive Plants</i>	Continue modest level of control as funding allows.	Complete invasive plant inventory by 2008; reduce acres affected by 10% by 2010.	Same as A	Same as B	Same as D, recognizing that some level of control should continue before and during inventory work.
<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 active partnerships with the states and other federal agencies, and increase public awareness and prevention.	Same as A	Same as B	Similar to D, but objective and strategies strengthened to 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.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
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 A	Same as A	Same as A	Same as A
<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 favor fish and wildlife over public use and aesthetic considerations	Adopt and begin use of guiding principles when providing input to design and construction of projects. Principles will favor public use of projects versus fish and wildlife needs or aesthetics.	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.	Same as D, but language clarified so that active management practices not discouraged (e.g. moist soil, water control structures) and consideration 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.	Decrease monitoring by focusing on waterfowl and a few other migratory bird species or groups.	Same as B	Same as B, but strategy added to 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.	Same as A	Same as B	Same as B, but recognize need to consider state-listed species and other "Species of Greatest Conservation Need" in state plans to help preclude federal listing.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>3.5 Furbearer trapping</i>	Continue basic trapping program until refuge trapping plan, with public involvement, is updated by 2007.	Same as A	Same as A	Same as A	Same as A, but expand 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	Same as A	Same as B	Same as B, but wording in rationale and strategies modified to emphasize state and Corps of Engineers role.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>3.7 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.	Increase refuge involvement in commercial fishing and clamming by: 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)	Same as A	Same as B	Same as B, with edits to reflect “one-stop-shopping” aspect of dovetailing Refuge permit with state-issued permit, to emphasize state lead in fisheries, and to emphasize collaborative approach with states and Corps of Engineers.
<i>3.8 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.	Increase refuge involvement in turtle management by: 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.	Same as A	Same as B	Same as B.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>3.9 Forest Management</i>	Continue current limited involvement with forest management; continue to cooperate with Corps of Engineers' forest inventory work.	Increase refuge involvement in forest management by: 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.	Same as A	Same as B	Same as B, but strategy added on exploring ways to leverage funds to add needed forestry technicians at each District.
<i>3.10 Grassland Management</i>	Maintain 5,700 acres of grassland through various management tools including prescribed fire, haying, and control of invasives.	Same as A except also complete a step-down Habitat Management Plan to address grassland conservation and enhancement.	Same as A	Same as B	Same as B, except strategy added to 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.					
<i>4.1. 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 165,524 acres (69%) of land and water open to all hunting. Add 2 new No Hunting Zones for a total of 3,813 acres (10 zones total).	Maintain a minimum of 189,647 acres (79%) of land and water open to all hunting. Add 9 new No Hunting Zones for a total of 5,959 acres (17 zones total).	Maintain a minimum of 180,626 acres (75%) of land and water open to all hunting. Add 6 new No Hunting Zones for a total of 5,404 acres (14 zones total).	Maintain a minimum of 187,205 acres (78%) of land and water open to all hunting and clarify this benchmark. Add 3 new No Hunting Zones totaling 290 acres (11 zones total).

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<p><i>4.2 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 2006: 1) Add 14 new Closed Areas to the current 15, for a total of 29 areas. 2) All areas, except on Lake Onalaska, would become true Waterfowl Sanctuaries by prohibiting entry and use from Oct. 1 to the end of the respective state duck season. 3) Some boundary adjustments would be made to the Lake Onalaska Closed Area. The Voluntary Avoidance Area would continue. Total acres = 60,396 Closed Areas = 1 Sanctuaries = 28</p>	<p>Continue current system of 14 Closed Areas and one Sanctuary, but in 2007 reduce the Lake Onalaska Closed Area by 245 acres to address a firing line. No change in entry or use regulations from existing system. Make only minor adjustments to other areas to clarify boundaries or address operation/maintenance needs. Total acres = 44,614 Closed Areas = 14 Sanctuaries = 1</p>	<p>In fall 2006: 1) Add 5 new Closed Areas and delete or modify the current 15 for a total of 21. 2) Add 2 new Waterfowl Sanctuaries (no entry) for a total of 3: a. Pool Slough Sanctuary (McGregor District, Pool 9, Iowa/Minnesota) b. Guttenberg Ponds portion of the 12 Mile Slough Sanctuary (McGregor District, Pool 11, Iowa) c. Spring Lake Sanctuary (Savanna District, Pool 13, Illinois-existing) 3) All Closed Areas, except on Lake Onalaska, would be closed to fishing, except bank fishing, and all motorized watercraft, from Oct. 1 to the end of the respective state regular duck season. (continued next page)</p>	<p>In fall 2007 (except fall 2009 for Pool 4): 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: 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 Bertram/McCartney Closed Area, Pool 11. Establish threshold for disturbance. (continued next page)</p>

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>4.2 Waterfowl hunting closed areas and sanctuaries (continued)</i>				4) Some boundary adjustments would be made to the Lake Onalaska Closed Area. The Voluntary Avoidance Area would continue. Total acres = 43,704 Closed Areas = 18 Sanctuaries = 3	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. Total acres= 43,764 Closed areas = 20 Sanctuaries=3
<i>4.3 Waterfowl hunting regulation changes</i>	No major changes to current waterfowl hunting regulations.	In 2006, implement new refugewide regulation limiting each hunter on the refuge to 25 shotshells in possession while hunting during the waterfowl season. Establish regulations to prohibit open-water hunting on areas of Pools 9 and 11.	In 2006, implement new refugewide regulation requiring a minimum of 100 yards spacing between waterfowl hunting parties. No shotshell restriction. No change in open-water hunting regulations in Pools 9 or 11.	In 2006, implement new refuge-wide regulations limiting each hunter on the refuge to 25 shotshells during waterfowl season and a minimum of 100 yards spacing between waterfowl hunting parties. Establish regulations to prohibit open-water hunting on areas of Pools 9 and 11.	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.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>4.4 Firing Line -- Pool 7, Lake Onalaska, La Crosse District</i>	Status quo, do not address the firing line issue beyond existing laws and regulations.	Move the north boundary of Lake Onalaska Closed Area northward to include 530 more acres and thus reduce the firing line.	Move the north boundary of Lake Onalaska Closed Area southward to exclude 245 more acres and thus reduce the firing line.	Establish a managed waterfowl hunting area on the north end of the Lake Onalaska Closed Area. This hunt would establish posted hunting sites and limit the number of hunters to those sites via random drawing and for-fee permits.	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.
<i>4.5 Permanent hunting blinds on Savanna District</i>	Continue current program.	Eliminate the use of permanent hunting blinds after with the 2006-07 waterfowl hunting season.	Same as B	Phase-out the use of permanent hunting blinds beginning with Pool 12 after the 2006-07 season, Pool 13 after the 2007-08 season, and Pool 14 after the 2008-09 season.	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.
<i>4.6 Potter's Marsh Managed Hunt Savanna District</i>	Continue current program but make some administrative changes.	For 2006-07 hunting season, eliminate the managed hunt program, including use of permanent blinds, and open to all on first come, first secured basis.	Same as B	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.	Same as D

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>4.7 Blanding Landing Managed Hunt Program (Lost Mound Unit, Savanna District)</i>	Continue current managed hunt as previously managed by the Illinois DNR: 15 permanent blind sites awarded by drawing.	After the 2006-07 season, eliminate the managed hunt program, including use of permanent blinds. Open to all on first come basis.	Same as B	Same as B	Same as B
<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 104,716 acres of surface water open to year-round fishing. An additional 38,645 acres open except October 1 to the end of the state duck hunting season. Maintain 15 fishing piers/docks.	Same as A, except add 5 new fishing piers/docks for a total of 20.	Provide 110,611 acres of surface water open to year-round fishing. An additional 32,750 acres open except October 1 to the end of the state duck hunting season. Add 3 new fishing piers/docks for total of 18.	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.	Review and comment on all tournament permits issued by the states to try and minimize conflicts with general public fishing, wildlife observation, and other uses.	Same as B	Same as B, but wording changed to reflect “one-stop-shopping” aspect of dovetailing Refuge permit with state-issued permit. Rationale and strategies changed to emphasize state lead in fisheries and collaborative approach with states and Corps of Engineers.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<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: 15 observation areas 8 hiking trails 4 canoe trails 3 biking trails 1 auto tour route	Maintain the following existing or new facilities: 31 observation areas 21 hiking trails 26 canoe trails 6 biking trails 3 auto tour routes 3 observation towers 3 photography blinds	Maintain the following existing or new facilities: 26 observation areas 16 hiking trails 21 canoe trails 5 biking trails 3 auto tour routes 3 observation towers 3 photography blinds	Slight change from D as follows: 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.	Same as A, except long-term add visitor services staff to McGregor and Winona Districts (low priority compared to biological, technical and maintenance positions)	Maintain 102 existing and new interpretive signs. Build 3 new District Offices and new Lost Mound office, all with visitor contact facilities, and 1 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 National Mississippi River Museum in Dubuque.	Same as C, except no major visitor center.	Same as D.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>4.12 Fish Floats</i>	Continue to allow 4 existing fish floats under current annual permits, stipulations, and \$100 annual fee.	Phase out 4 existing fish floats and do not replace, letting private sector provide alternative off-refuge lands opportunities, such as commercial fishing barges not moored to refuge lands.	Develop new standards for fish float facilities and operations, including new concession fees, and phase out floats that can not meet those standards. Seek replacement operations to replace those phased out. Solicit proposals for one new fish float, or other alternative, in the Savanna District.	Develop new standards for fish float facilities and operations, including new concession fees, and phase out floats that can not meet those standards. Do not replace floats that are phased out, letting private sector provide alternative off-refuge lands opportunities, such as commercial fishing barges not moored to refuge lands.	Same as D except solicit new proposals for any float phased out for not meeting standards, and base decision to replace 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.	Do not allow guiding for hunting, fishing, and wildlife observation on the refuge.	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.	Same as C	Same as C, but language modified to amplify cooperation with states and Corps of Engineers and “one-stop-shopping” for permits when possible.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
Goal 5. Other Recreational Use. Provide opportunity for traditional and appropriate non-wildlife dependent use that is compatible with the Refuge.					
<p><i>5.1. 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>Closed-unless-open policy. Limit camping, boat mooring, swimming, social gatherings, picnicking, and other non-wildlife-dependent uses to islands and shoreline that border the main channel, including the backside of such islands or points, that are posted open for such uses. Implement new regulations dealing with camping, human waste, and alcohol use. No beach maintenance would be conducted.</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. Implement new regulations on camping, human waste, and alcohol use. Require that all persons using boats for beaching, mooring, or anchoring on refuge lands purchase a Recreation Use Permit. Beach maintenance would be allowed on most areas. Work with interagency teams to complete beach plans by pool.</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: 1) areas closed or restricted by signing to protect wildlife, habitat or the public, and 2) camping and overnight mooring limited to islands and shoreline that border the main channel, including the backside of such islands or points. Implement new regulations dealing with camping, human waste, and alcohol use. Articulate clear beach maintenance policy, and work with interagency teams to complete beach plans by pool.</p>	<p>Similar to D, with modifications: 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, proper coordination with states and Corps of Engineers and notice to public. 3) New alcohol regulation dropped; enforce existing. 4) Regulation for portable toilets or disposal kits dropped in favor of 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.</p>

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
5.1. Beach use and maintenance policy and regulations (continued)					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
5.2. Electric Motor Areas and Slow, No Wake Areas	Current program with only 1 electric motor area of 222 acres (Mertes Slough, Winona District).	Designate 10 electric motor areas encompassing 15,900 acres. All current uses allowed, except camping.	Designate 15 electric motor areas encompassing 13,239 acres. All current uses allowed, including camping.	Designate 16 new electric motor areas encompassing 14,498 acres. All current uses allowed, and areas open to primitive camping.	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>

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>5.3 Slow, No Wake Zones</i>	Maintain 2 existing slow, no wake zones administered by the Refuge, and assist in enforcement of 44 others.	Add 9 new slow, no wake zones, bringing total to 11 administered by the Refuge, and assist in enforcement of 44 others.	Add 8 new slow, no wake zones, bringing total to 10 administered by the Refuge, and assist in enforcement of 44 others.	Add 9 new slow, no wake zones, bringing total to 11 administered by the Refuge, and assist in enforcement of 44 others (slight location difference compared to B).	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.
<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 clearer regulation which defines confined: Dogs and other animals must be on 6 ft or less leash, or in closed kennel, at all times, except dogs during hunting seasons while engaged in hunting. No field trials or commercial training will be permitted (current policy).	Adopt regulation similar to one proposed by area conservation group: no wildlife or people disturbance, under control of owners at all times, and physically restrained at posted public use areas or when in proximity to people except while engaged in hunting. No field trials or commercial training will be permitted (current policy).	Adopt enforceable regulation which safeguards wildlife and visitors: From March 1 to June 30, dogs must be restrained by leash or other means. At all other times, dogs can be free if 100 yards away from designated public use areas and/or other persons, and if within sight and voice control of owner/handler. 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, and professional training and field trials remain prohibited.

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<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.	Same as B	Same as B	Same as B, but add strategy for doing a Law Enforcement step-down plan for the Refuge in cooperation with the states and Corps of Engineers.
Goal 6. Administration and Operation. Clarify boundary issues; 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.	Maintain existing offices (6) and shops (5), but replace the maintenance facilities at Winona, McGregor, and Savanna Districts by 2010.	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 have expanded visitor facilities but not a biological work area or lab. By 2020, build a new office and large visitor center for the Headquarters of the Refuge, and locate it either in Winona or La Crosse. Also by 2020, remodel or replace office and shop at the Lost Mound Unit.	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.	Same as D

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>6.2 Public access facilities</i>	Maintain and modernize as needed, 25 existing public boat accesses.	Same as A, except implement launch fee for Refuge-operated boat ramps.	Add 1 new boat access, 3 new walk-in accesses, 3 new and 1 improved canoe landings, and improve 5 parking areas. Implement launch fee for Refuge-operated boat ramps.	Add 1 new boat access, 3 new walk-in accesses, 1 improved canoe landing, and improve 5 parking areas. Implement launch fee for Refuge-operated boat ramps.	Same as D except no launch fee for Refuge-operated boat ramps and 1 additional walk-in access.
<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.	Same as A, but reflect needs of wildlife focus alternative.	Same as A, but reflect needs of public use focus alternative.	Same as A, but reflect balanced needs of wildlife and integrated public use focus alternative.	Same as D, but wording added to 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.	Decrease 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). 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.	Same as C, but also take advantage of technical and specialist positions added in this alternative to increase outreach.	Same as D

Table 1: Alternative Comparison by Issue/Objective, Upper Mississippi River Refuge (Continued)

Alternatives Issue/ Objective	Alternative A. No Action	Alternative B. Wildlife Focus	Alternative C. Public Use Focus	Alternative D. Wildlife and Integrated Public Use Focus	Alternative E: Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
<i>6.5 Staffing needs</i>	No change in staffing level of 37 people (37 FTEs)	By 2015, increase staffing from current 37 to 57 people (54.5 FTEs) to bring all Districts to minimum staffing level, add specialists to Headquarters, and increase staff at Lost Mound Unit. Priority would be positions which support biological and habitat programs.	By 2015, increase staffing from current 37 to 57 people (54.5 FTEs) to bring all Districts to minimum staffing level, add specialists to Headquarters, and increase staff at Lost Mound Unit. Priority would be public use positions.	By 2015, increase staffing from current 37 to 59 people (56.5 FTEs) to bring all Districts to minimum staffing level, add specialists to Headquarters, and increase staff at Lost Mound Unit. Priority would be a blend of wildlife and public use related positions.	Similar to D, but add 4 additional FTEs: 4 Full-time Refuge Officers based on public and agency comment. Total FTEs: 60.5. Implement by 2021.

Table 2: Summary of Project Features by Alternative

Feature	Existing Features		Total Proposed Features								Comments for Alternative E
	Alternative A: No Action		Alternative B: Wildlife Focus		Alt. C: Public Use Focus		Alt. D: Wildlife & Integrated Public Use Focus		Alt. E: Modified Wildlife & Integrated Public Use Focus (Preferred Alternative)		
	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	
Waterfowl Closed Areas and/or Sanctuaries	15	44,544	29	60,396	15	44,614	21	43,704	23	43,764	
No open water hunting areas	0	0	2	10,487	0	0	2	10,487	1	4,000	Pool 11 only
Managed / Special Hunts	2	2,434	0	0	0	0	2	2,403	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	10	3,813	17	5,959	14	5,404	11	3,845	All alternatives include Lost Mound Contaminated No Entry Area (2,467 acres)
Fish catch and release area	1	700	1	700	1	700	1	700	1	700	
Heron sanctuary	0	0	1	64	0	0	1	64	0	0	
No-wake zones	46	NA	55	NA	54	NA	55	NA	57	N/A	
Electric motor areas	1	222	10	15,900	15	13,239	16	14,498	5	1,852	
Slow, No Wake Areas	0		0		0		0		8	9,720	
Research Natural Areas	4	6,946	4	6,946	4	6,946	4	6,946	4	6,946	
Trails											
Canoe trails	4	32.1	4	32.1	26	167.9	21	126.9	19	120.6	
Hiking trails	6	20.5	8	24.8	21	50.7	16	40.9	14	36.5	
Auto tour routes	1	2.5	1	2.5	3	11.0	3	11.0	3	11.0	
Biking trails	3	10.0	3	10.0	6	17.0	5	14.1	6	21.1	

Table 2: Summary of Project Features by Alternative (Continued)

Feature	Existing Features		Total Proposed Features								Comments for Alternative E
	Alternative A: No Action		Alternative B: Wildlife Focus		Alt. C: Public Use Focus		Alt. D: Wildlife & Integrated Public Use Focus		Alt. E: Modified Wildlife & Integrated Public Use Focus (Preferred Alternative)		
	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	
Access Facilities											
Fishing Piers	15	NA	15	NA	20	NA	18	NA	20	N/A	
Commercial fishing floats / piers	4	NA	0	NA	5	NA	4	NA	4	N/A	
Boat access	25	NA	25	NA	26	NA	26	NA	26	N/A	
Walk-in access	0	NA	0	NA	3	NA	3	NA	4	N/A	
Canoe landing / launch	1	NA	1	NA	4**	NA	2**	NA	2**	N/A	** Includes proposed improvement to Reno Canoe Launch (non-FWS)
Parking lot improvements	0	NA	0	NA	5	NA	5	NA	5	N/A	
Wildlife Observation Facilities											
Observation decks/areas	15	NA	15	NA	31	NA	26	NA	25	N/A	
Observation towers	0	NA	0	NA	3	NA	3	NA	3		
Photo blinds	0	NA	0	NA	3	NA	3	NA	4	N/A	
Signage											
Kiosks	66	NA	66	NA	115	NA	115	NA	115	N/A	
Interpretive signs	59	NA	59	NA	102	NA	102	NA	102	N/A	
Entrance signs	25	NA	25	NA	30	NA	30	NA	30	N/A	
Official Notice Boards	30	NA	30	NA	49	NA	49	NA	49	N/A	
Proposed Buildings											
Build new maintenance facilities	2	NA	3	NA	5	NA	5	NA	5	N/A	

Table 2: Summary of Project Features by Alternative (Continued)

Feature	Existing Features		Total Proposed Features								Comments for Alternative E
	Alternative A: No Action		Alternative B: Wildlife Focus		Alt. C: Public Use Focus		Alt. D: Wildlife & Integrated Public Use Focus		Alt. E: Modified Wildlife & Integrated Public Use Focus (Preferred Alternative)		
	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	Units	Acres or Miles	
Build new office facilities	0	NA	0	NA	3	NA	3	NA	3	N/A	HQ office combined with Winona or La Crosse office in Alternatives C & D.
Build major visitor center	0	NA	0	NA	1	NA	0	NA	0	N/A	HQ Visitor Center + Office combined in Alt. C, located in Winona or La Crosse
Refuge Staffing	37.0	NA	54.5	NA	54.5	NA	56.5	NA	60.5	N/A	Number of FTEs (Full Time Equivalents); Alt. E adds 4 law enforcement officers

Table 3: Degree to Which Alternatives Meet Refuge Needs¹

	Alternative A No Action	Alternative B Wildlife Focus	Alternative C Public Use Focus	Alternative D Wildlife and Integrated Public Use Focus	Alternative E Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)
Need 1: Contribute to the Mission					
Contribute to the mission of the National Wildlife Refuge System	4	5	3	5	5
Need 2: Help Fulfill the Refuge Purpose					
Refuge and breeding place for migratory birds	3	5	3	4	4
Refuge and breeding place for other wild birds, animals, plants	3	5	3	5	5
Refuge and breeding place for fish and other aquatic animal life	3	5	2	5	5
Need 3: Help Achieve Refuge Goals and Related Needs					
Landscape conservation – boundary acquisition, bluffs, research areas	4	5	3	5	5
Environmental health – water quality, drawdowns, invasives	3	5	2	5	5
Wildlife and habitat – monitoring, management, threatened and endangered species, forests, grasslands, Environmental Pool Plans	3	5	2	5	5
Wildlife-dependent recreation – hunting, fishing, observation, environmental education, interpretation	3	2	5	4	4
Other recreational use – beach use, electric motor areas, slow-no-wake, regulations	2	1	5	4	4
Administration and operations – offices, staffing, outreach, access	1	4	4	5	5

1. Scale for summarizing the degree to which the alternatives meet Refuge Needs:
5= High contribution; 3=Neutral; 1=Low contribution.

Table 4: Refuge Priority Locations and Actions that Contribute to Implementation of Environmental Pool Plans, 2006-2021*, Upper Mississippi River NWFR

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	Water-shed Management
Pool 4	Stabilize Crats Island	Lower Big Lake	Big Lake	Robinson Lake (mud flats)	Restoration of Distributary Channels of Zumbro	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 4: 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	Water-shed 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	Whitewater 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	Whitewater River
		Lower Pool 5 Seed Islands Krueger Slough area	Lower Pool Plan with new island construction	Weaver Islands						Remaining 1987 Master Plan tracts within floodplain	Weaver Islands Spring Lake HREP	Monitor Pool-wide		Spring Lake HREP	

Table 4: 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	Water-shed 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 4: 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	Water-shed 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)												
			Pools A & B Trempealeau NWR in conjunction with island construction				Monitor Pool-wide								

Table 4: 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	Water-shed 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 4: 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	Water-shed Management
Pool 8	East Island	Phase III/ Pool 8 Islands	Phase III, Pool 8 Islands	Phase III/ Pool 8 Islands	Root River	L&D 8	Root River bottoms	Continue monitoring the 2001-02 drawdowns	1987 Master Plan tracts	Completed EMP and other habitat projects	Lower Pool 8	Root River delta	Root River bottoms	Hire private lands biol.	Root River
	Main channel islands	Shady Maple	Schnicks Bay	Shady Maple	L&D 7			Pool-wide	Root River Addition	Lawrence Lake	Main channel islands	Goose Island		Coop Agree. for buffers to reduce runoff	Gills Coulee Creek/ La Crosse River
	West Channel Island	Phase IV/ Pool 8 Islands	Shady Maple	Phase IV/ Pool 8 Islands	L&D 8					Blue Lake	Shore Acres Road	Main channel islands & barrier islands		Vernon & La Crosse Counties (WI) and Winona & Houston Counties (MN)	Pine Creek
	Running Slough		Running Slough		Shore Acres/ Sheperds Marsh Area					Target Lake	Bluff Slough				Mormon Coulee Creek
			Broken Arrow Slough		Continue Lower Pool 8 Channel Mgmt. Plan					Root River bottoms	Running Slough				Coon Creek
			Lawrence Lake												
			West Channel												
			Black River												

Table 4: 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	Water-shed 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												Sny McGill	
			Frenchtown Lake													Bloody Run Wisconsin River Wisconsin River

Table 4: 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	Water-shed Management
Pool 12	RM 572.2 Menominee Slough	Barrier islands in Lower Pool 12	Sunfish Lake, Fish Trap Lake, Stone Lake		Modify Dam 11 to introduce flows	Include in dam renov.		Pool-wide	1987 Master Plan tracts	EMP projects	Purple loose-strife, Reed canary grass, Cucumber vine, Multiflora rose, Garlic mustard	Nine Mile Island	Control invasives with fire, mechanical, chemical	Hire Private Lands Biologist	Galena River
	RM 559.8		No Name Lake, Kehough, Tippy		Kehough Slough						Mid-pool 12	Coop Agree. for buffers to reduce runoff			Menominee River
	RM 576.8 Island 228		Nine Mile Island		Fish Trap Lake							Bellevue Slough			
	Monitor existing islands along main channel		Wise Lake		Sunfish Lake							Lower Pool 12			
			Frentress Lake, East Dubuque complex												
	White City/ Stump Island														

Table 4: 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	Water-shed 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 Shrieker's Lake												
			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.															

Table 5: Closed Areas and Sanctuaries* / Alternatives A through E, Upper Mississippi River Refuge

Pool	Name	State	Alt. A No Action (Current Management)		Alt. B Wildlife Focus		Alt. C Public Use Focus		Alt. D Wildlife and Integrated Public Use Focus		Alt. E Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)	
			Acres	Status	Acres	Status	Acres	Status	Acres	Status	Acres	Status
4	Nelson-Trevino	WI	3,773	Closed Area	3,773	Sanctuary	3,773	Closed Area	None		0	Closed Area Drop in 2009
4	Big Lake-Buffalo Slough	WI	None		3,249	Sanctuary	None		3,249	Closed Area; no fishing, no motors	2,461	Closed Area Drop Buffalo Sl. Start 2009, Vol.Avoid. (VA)
4	Peterson Lake	MN-WI	3,111	Closed Area	None		3,111	Closed Area	None		677	Closed Area Start 2009, VA, no motors
4	Rieck's Lake	WI	Part of Peterson Lake		496	Sanctuary	Part of Peterson Lake		496	Closed Area; no fishing, no motors	608	Closed Area, add Buffalo River, start 2009, VA, no motors
5	Weaver Bottoms / Lost Island	MN-WI	3,139	Closed Area	3,780	Sanctuary	3,139	Closed Area	3,508	Closed Area; no fishing, no motors	3,508	Closed Area, VA
5	Spring Lake	WI	None		243	Sanctuary	None		243	Closed Area; no fishing, no motors	243	Closed Area, VA, no motors

Table 5: Closed Areas and Sanctuaries* / Alternatives A through E, Upper Mississippi River Refuge

Pool	Name	State	Alt. A No Action (Current Management)		Alt. B Wildlife Focus		Alt. C Public Use Focus		Alt. D Wildlife and Integrated Public Use Focus		Alt. E Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)	
			Acres	Status	Acres	Status	Acres	Status	Acres	Status	Acres	Status
5A	Fountain City Bay	WI	None		24	Sanctuary	None		None		24	Closed Area if land exchange with WDNR fails, VA, no motors
5A	Polander Lake	MN-WI	1,589	Closed Area	1,910	Sanctuary	1,589	Closed Area	1,910	Closed Area; no fishing, no motors	1,907	Closed Area, VA
6	Trempealeau NWR (functions as closed area; special regulations; 5,520 acres)	WI	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
7	Lake Onalaska	WI	7,348	Closed Area	7,880	Closed Area	7,103	Closed Area	7,400	Closed Area	7,369	Closed Area, no change from current regs.
8	Goose Is. No Hunt Zone	WI	876	No Hunt Zone / Closed Area	1,210	Sanctuary	1,210	No Hunt Zone / Closed Area	1,210	Closed Area; no fishing, no motors	986	Part of Closed Area system, VA, no motors

Table 5: Closed Areas and Sanctuaries* / Alternatives A through E, Upper Mississippi River Refuge

Pool	Name	State	Alt. A No Action (Current Management)		Alt. B Wildlife Focus		Alt. C Public Use Focus		Alt. D Wildlife and Integrated Public Use Focus		Alt. E Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)	
			Acres	Status	Acres	Status	Acres	Status	Acres	Status	Acres	Status
8	Wisconsin Islands	MN-WI	6,510	Closed Area	6,513	Sanctuary	6,483	Closed Area	6,483	Closed Area; no fishing, no motors	6,510	Closed Area, VA
9	Pool Slough	MN-IA	1,112	Closed Area	2,559	Sanctuary	1,112	Closed Area	1,112	Sanctuary	1,112	Sanctuary
9	Harpers Slough	IA-WI	5,209	Closed Area	5,209	Sanctuary	5,209	Closed Area	5,209	Closed Area; no fishing, no motors	5,209	Closed Area, VA
10	Sturgeon Slough	WI	None		None		None		None		340	Closed Area, VA, no motors
10	McGregor Lake	WI	None		None		None		None		0	Dropped
10	WI River Delta	WI	None		1,545	Sanctuary	None		1,545	Closed Area; no fishing, no motors	0	Special Hunt Area, see Text and Appendix Q
10	Bagley Bottoms	WI	None		627	Sanctuary	None		None		None	
10	12-Mile Island	IA	540	Closed Area	540	Sanctuary	540	Closed Area	540	Closed Area; no fishing, no motors	540	Closed Area, VA, no motors
11	Guttenberg Ponds	IA	None		None		None		502	Sanctuary	252	Sanctuary

Table 5: Closed Areas and Sanctuaries* / Alternatives A through E, Upper Mississippi River Refuge

Pool	Name	State	Alt. A No Action (Current Management)		Alt. B Wildlife Focus		Alt. C Public Use Focus		Alt. D Wildlife and Integrated Public Use Focus		Alt. E Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)	
			Acres	Status	Acres	Status	Acres	Status	Acres	Status	Acres	Status
11	12-Mile Island	IA	1,396	Closed Area	1,396	Sanctuary	1,396	Closed Area	894	Closed Area; no fishing, no motors	1,145	Closed Area, VA
11	Hay Meadow Lake	WI	None		None		None		841	Closed Area; no fishing, no motors	None	
11	Bertom-McCartney	WI	2,415	Closed Area	2,385	Sanctuary	2,415	Closed Area	None		2,384	Closed Area, use existing Regs.
11	John Deere Marsh	IA	None		512	Sanctuary	None		512	Closed Area; no fishing, no motors	439	Closed Area, VA, no motors
12	Nine-Mile Island	IA	None		567	Sanctuary	None		None		None	
12	Kehough Slough	IL	None		343	Sanctuary	None		343	Closed Area; no fishing, no motors	343	Closed Area, VA, no motors
12	Wise Lake	IL	None		1,081	Sanctuary	None		None		None	
12	Lower Pool 12	IL	None		478	Sanctuary	None		None		None	
13	Pleasant Creek	IA	2,603	Closed Area	2,603	Sanctuary	2,603	Closed Area	2,067	Closed Area; no fishing, no motors	2,067	Closed Area, VA

Table 5: Closed Areas and Sanctuaries* / Alternatives A through E, Upper Mississippi River Refuge

Pool	Name	State	Alt. A No Action (Current Management)		Alt. B Wildlife Focus		Alt. C Public Use Focus		Alt. D Wildlife and Integrated Public Use Focus		Alt. E Modified Wildlife and Integrated Public Use Focus (Preferred Alternative)	
			Acres	Status	Acres	Status	Acres	Status	Acres	Status	Acres	Status
13	Brown's Lake	IA	None		2,362	Sanctuary	None		None		None	
13	Spring Lake	IL	3,686	Sanctuary	3,686	Sanctuary	3,686	Sanctuary	3,686	Sanctuary	3,686	Sanctuary
13	Elk River	IA	1,237	Closed Area	1,237	Sanctuary	1,237	Closed Area	1,237	Closed Area; no fishing, no motors	1,237	Closed Area, VA
13	Lower Pool 13	IA	None		2,004	Sanctuary	None		None		None	
14	Beaver Island	IA	None		717	Sanctuary	None		717	Closed Area; no fishing, no motors	717	Closed Area, VA, no motors
14	Wapsipinicon	IA	None		1,467	Sanctuary	None		None		None	
Total Acres			44,544		60,396		44,614		43,704		43,764	
Total UMR Refuge Units			15		29		15		21		23	
* Closed Area, Alternatives A and C = closed to all migratory bird hunting. Other hunting and trapping is only allowed beginning the day after the close of the state duck hunting season, until season closure or March 15, whichever comes first, except turkey hunting is allowed during state seasons.									* Sanctuary = No entry October 1 to the end of the regular state duck hunting season.			
* Closed Area, Alternative D = closed to all migratory bird hunting. Other hunting and trapping is only allowed beginning the day after the close of the state duck hunting season, until season closure or March 15, whichever comes first, except turkey hunting is allowed during state seasons. No fishing and no motorized watercraft allowed October 1 to the end of the respective state regular duck hunting season.												
* Closed Area, Alternative E = closed to all migratory bird hunting. Other hunting and trapping is only allowed beginning the day after the close of the state duck hunting season, until season closure or March 15, whichever comes first, except turkey hunting is allowed during state seasons. The public will be asked to practice Voluntary Avoidance (VA), i.e. limiting entry, on all closed areas ("Large" and "Small") October 15 to the end of the respective state duck hunting season and 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.												