

Trempealeau

National Wildlife Refuge

Final Environmental Impact Statement and Comprehensive Conservation Plan

Summary

Introduction

A Comprehensive Conservation Plan (CCP) is being prepared to guide the administration and management of Trempealeau National Wildlife Refuge (Refuge) for the next 15 years. This document integrates the components of a CCP, namely goals, objectives, and strategies; with the requirements of an Environmental Impact Statement, namely alternatives and consequences.

Comprehensive conservation plans are required by the National Wildlife Refuge System Improvement Act of 1997 to ensure that refuges are managed in accordance with their purposes and the mission of the National Wildlife Refuge System, which is part of the U.S. Fish and Wildlife Service. The CCP describes a desired future condition of the Refuge, and provides both long-term and day-to-day guidance for management actions and decisions. The CCP provides broad and specific policy on various issues, sets goals and measurable objectives, and outlines strategies for reaching the objectives.

Preparation of an Environmental Impact Statement (EIS) as part of the CCP planning process establishes scientific data on which to base a selection of a management direction and provides an opportunity for residents, communities, state agencies and governments, and non-government organizations to express their ideas on Refuge management. The EIS process assures that the direction set forth in the CCP best achieves the Refuge's purposes, vision and goals; contributes to the mission of the National Wildlife Refuge System; is consistent with principles of sound fish and wildlife management; and addresses relevant mandates and major issues developed during scoping.

The Refuge System is the largest collection of lands and waters in the world set aside for the conservation of wildlife, with over 540 units covering more than 95 million acres in the U.S. and its terri-



Aerial view of Trempealeau NWR pools adjacent to the Upper Mississippi River. Photo by Robert Hurt.

tories. Trempealeau NWR was established by Executive Order in 1936 as “a refuge and breeding ground for migratory birds and other wildlife.” The 6,226 acre Refuge is a backwater of the Mississippi River and is strategically located within an important migration corridor, providing resting and feeding habitat for thousands of waterfowl and other birds during spring and fall. The Refuge also includes more than 700 acres of native prairie and oak savanna, habitat types that are scarce in Wisconsin.

An estimated 70,000 visitors enjoy birding, hiking, biking, hunting, fishing, or photography at the Refuge. Over 2,000 young people learn about their environment each year through educational programs. A dedicated force of volunteers contributes to the quality of the visitor experience, as well as successful habitat management.

Staff offices are located at the Refuge near the City of Trempealeau, Wisconsin. The Refuge is a unit of the Upper Mississippi National Wildlife and Fish Refuge Complex with headquarters in Winona,

Minnesota. There are currently four full-time permanent employees and a base annual budget of \$400K.

Public Involvement and Decision Process

Scoping of issues began in September of 2002 with a public meeting in Centerville, Wisconsin to identify issues. Key issues identified at the meeting and by Refuge staff, were summarized in 12 “fact sheets” that provided the basis for discussion groups at an all-day workshop in March of 2003. Workshop participants were “managers for a day” making tough decisions about how to balance often conflicting Refuge uses. A website was maintained with up-to-date news about the process. Follow-up meetings with Wisconsin Department of Natural Resources and briefings with various commissions, associations, and Congressional offices occurred throughout the process.

The Draft EIS/CCP was released for public review in June 2007 with a 60-day comment period. Summaries were mailed to 250 people, and full copies were provided to 52 people, agencies, and non-



White sage, Trempealeau NWR

government organizations. Paper copies were also distributed to eight libraries in the area surrounding the Refuge.

The full EIS/CCP was posted on the Refuge’s planning website.

Twenty-six people participated in a public meeting hosted by the Refuge on June 28, 2007, in Trempealeau, Wisconsin. The purpose of the meeting was to give people an opportunity to comment in person on the Draft EIS/CCP. Comments were also accepted through the mail and via e-mail. Topics discussed included:

- The history of Trempealeau NWR management and current land conditions.
- The mission of the National Wildlife Refuge System and the purpose of Trempealeau NWR.
- The comprehensive conservation planning process and development of alternatives.
- Objectives and strategies of the preferred alternative, Alternative C .

In addition, on July 10, 2007, the Refuge hosted a workshop focused on the waterfowl hunting objective (Objective 3.5) in the preferred alternative. Two people not associated with the U.S. Fish & Wildlife Service attended the workshop.

Following the publication of the Final EIS/CCP, the Regional Director, U.S. Fish and Wildlife Service, Twin Cities, Minnesota, will make a decision on which alternative in the Final EIS will become the Final CCP. This decision will be recorded in a formal Record of Decision included in the final documents. Substantive comments from the public, agencies, and other groups that were received on the Draft EIS/CCP are included in the Final EIS, along with a Service response.

Refuge Vision and Goals

The Refuge vision provides a simple statement of the desired, overall future condition of the Refuge. Refuge goals are “stepped down” from the vision and provide a framework for more detailed, measurable objectives which are the heart of the CCP.

Refuge Vision:

“Trempealeau National Wildlife Refuge is enjoyed and appreciated by the people of America as a beautiful, scenic place where a diversity of native plants and animals thrive in healthy prairies, forests, and wetlands.”

Refuge Goals

Landscape

We will strive to maintain and improve the scenic and wild character, and environmental health of the Refuge.

Wildlife and Habitat

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

Public Use

We will manage public use programs and facilities to ensure sustainable, quality hunting, fishing, wildlife observation, wildlife photography, interpretation, and environmental education opportunities for a broad cross-section of the public; and provide opportunities for the public to use and enjoy the Refuge for traditional and appropriate non-wildlife dependent uses that are compatible with the purposes for which the Refuge was established and the mission of the Refuge System.

Neighboring Landowners and Communities

We will communicate openly and work cooperatively with our neighbors and local communities to help all benefit from the aesthetic and economic values of the Refuge.

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.

Planning Issues, Concerns and Opportunities

Scoping and public involvement helped identify numerous issues facing the Refuge and formed the basis for crafting the EIS/CCP. These issues are summarized below by related Refuge goal.



Winter ice over a Refuge pool. USFWS

Landscape Issues

Land Acquisition

Only 340 acres within the acquisition boundary approved in the 1983 Refuge Master Plan have not been acquired. An additional 12 acres outside the current approved boundary would be added under the Regional Director’s authority. Acquiring these lands would alleviate issues with the entrance road flooding, and allow the Refuge to restore and protect bottomland forest and emergent marsh.

Refuge Boundary

Brush cutting, dumping, mowing, illegal hunting and fishing, and vehicle trespass all occur along areas of the boundary, often intruding onto Refuge lands. A clearly marked and maintained boundary would be a deterrent to encroachment and other illegal activities and would help to maintain positive relations with neighboring landowners.

Flood Protection

The Burlington Northern Sante Fe Railroad (BNSFR) dike separates the Refuge from the main channel of the Mississippi River. During the near-record flood in 2001, floodwaters put severe pressure against the river side of the dike. At the request of BNSFR the Service allowed floodwater to enter the Refuge. Severe damage occurred to Refuge habitats and infrastructure and offered insufficient protection for the railroad dike. The Refuge has no official policy for dealing with water management during flood events, making it vulnerable to impacts from emergency actions.

Natural Areas and Special Designations

In 1986, Black Oak Island was designated a Public Use Natural Area as an example of undisturbed, mature, eastern deciduous forest. A management plan is needed to ensure the future integrity of the area.

The Great River State Bike Trail passes through the Refuge with an estimated 20,000 cyclists riding through each year. Improved signing and interpretive materials, and alleviating the spring flooding of the entrance road are issues that need to be resolved to improve the bike trail.

Archeological Resources

The U.S. Fish and Wildlife Service has a responsibility for the protection of the many known and unknown cultural resources located on Refuge lands. Trempealeau NWR has been described as one of the most important archeological sites in the Midwest. Human use dates back 12,000 years. The majority of the Refuge has not had baseline surveys and the locations and extent of archeological resources are unknown. Protection of sites is difficult and the Refuge has a long history of illegal collecting. Habitat management is often delayed pending site surveys. The Refuge does not have an Archeological Resource Protection Plan or an inventory plan.

Wildlife and Habitat Issues

Forest Management

More than 85 percent of the forests are dominated by non-native trees and shrubs. Efforts to control invasive understory plants are limited by current staff and funding. Commercial harvest of pines and black locust, and firewood cutting are difficult because of pending archeological surveys. The Forest Management Plan is outdated.

Wetland Management

Stable, deep water and poor water clarity have led to a general declining trend in productivity in impounded wetlands on the Refuge. Wind, waves, and rough fish create poor conditions for aquatic plant growth by suspending bottom sediments. Invasive aquatic plants are increasing. Smaller management units, rough fish removal, and water control are needed to improve wetland productivity. Some areas, particularly those fed by the Trempealeau River are impacted by high sediment loads from upstream agricultural lands. Repairing these

streams at the top of the watershed is critical to keeping sediments on the land rather than flowing into the Refuge and the Mississippi River. Full implementation of the Partners for Wildlife Program is needed to address watershed concerns.

Grassland Management

Historically, much of the upland areas of the Refuge were dominated by prairies and oak savanna. Non-native pines, black locust, and other invasive shrubs threaten to take over prairie habitats on the Refuge. Control of invasive plants is an ongoing, labor intensive and costly management tool. Success is often limited. Prescribed fire is an essential component of grasslands and is used under prescriptions described in the Fire Management Plan, which was being prepared in 2007.

Invasive Plants and Animals

Invasive plants continue to pose a major threat to native plant communities and the wildlife that depend on them. All habitat types on the Refuge have invasive plants of some variety or another. Biological control is available for some species but, mechanical removal is the mainstay of the control program. While volunteers, school groups and staff have made some headway, labor is a limiting factor.

Years of impoundment and stable water have led to a fishery dominated by carp and other non-desirable rough fish. Invasion by Asian carp may be imminent. The Fishery Management Plan needs to be updated to aggressively manage non-native fish.

Monitoring Fish, Wildlife, and Plant Populations

Although monitoring has been a part of managing the Refuge for many years, gaps remain in baseline population data for many species. A Wildlife Inventory Plan was completed in 1987, but needs updating to reflect changes in habitat, the status of many species, and new policies, procedures, and technologies for monitoring and investigation as issues arise and change.

Threatened and Endangered Species

Increased attention is needed on listed species due to their often precarious population status and the need for special management consideration and protection.

Deer Management

Deer hunting is used to reduce vegetation browse impacts and to maintain populations in-line with State goals for adjoining lands. Accurate deer numbers are needed to determine the appropriate harvest in consideration of browse impacts.

Wildlife Disease Management

A wide range of issues are currently in the public eye regarding wildlife disease and potential impacts to human populations. A Disease Contingency Plan needs to be developed to identify available resources and procedures for responding to disease outbreaks in wildlife.

Public Use Issues

Wildlife Observation and Photography

The public desires more opportunities for wildlife observation and photography. There is a need to provide enhanced opportunities during all seasons and to improve facilities for people with disabilities. The Service needs to evaluate the pros and cons of an entrance fee program that may provide additional funds for visitor services.

Environmental Education

The demand for formal environmental education has been increasing and staff has few resources to accommodate requests. The Refuge would benefit from all-weather group teaching and restroom facilities.

Hunting

Waterfowl hunting is a priority public use and is a vital part of the cultural, social, and economic fabric of communities around the Refuge. The public desires more hunting opportunities, particularly in high quality habitats like those found on the Refuge. However, managers must balance hunting opportunities with the need to limit disturbance to wildlife and accommodate other visitor interests. The Refuge needs a Hunt Plan and a Visitor Services Plan that includes a detailed evaluation of the benefits of opening new areas to hunting.

Fishing

As habitats for fish improve demand for fishing may increase. Attention to support facilities (boat ramps, fishing platforms) is needed to improve access and quality of the fishing experience.



Waterfowl hunters with disabilities. USFWS

Harvesting Fruit, Nuts, and Other Plant Parts

Some plants growing on the Refuge produce edible parts such as fruit and nuts. In the past, harvest of some fruits and nuts was allowed, but new requests for medicinal plants, seeds, and wild rice have increased. There is a need to clarify the policy on harvest of plant part and what levels can be sustained without jeopardizing habitats or wildlife.

Horseback Riding

As more hobby farms become established in the vicinity, interest in the use of the Refuge for horseback riding has increased. The potential for conflicts with other visitors and damage to Refuge habitats necessitates careful consideration and review of Service policy.

Domestic Pets

Dogs on a leash are permitted on the Refuge. Requests for opening areas to unleashed pets during the winter, and for dog field trials necessitates a review of current regulations and careful consideration of the need to protect visitors and wildlife while taking into account the public's interest in training and exercising dogs.

Non-Refuge Sponsored Events

Scout jamborees, overnight camping by school groups, weddings, family reunions, and fund raising walks or runs by charities are examples of non-Refuge sponsored events that are considered non-wildlife dependent activities. Each of these activities must be considered individually to determine if they are compatible with the purposes of the Refuge and if they are likely to impact resources.

Non-Refuge Sponsored Research

At times, research projects, although interesting, do not further the management objectives of the Refuge. Clear guidelines need to be developed as to what research is compatible with the Refuge purposes and is in the best interest of staff and funding resources.

General Public Use Regulations

The current public use regulations (hours of operation, vehicle access, fires, camping, etc.) were updated in 1992. A general update is needed to reflect changing public use patterns and to provide clear guidance to visitors and law enforcement officers.

Neighboring Landowner and Community Issues

Community Outreach

Numerous opportunities exist to build connections between the Refuge and the community. Refuge planning must include a strong component of community outreach and participation.

Friends Group

Friends groups play a critical role in helping the public understand the importance of protecting and preserving refuges. The Refuge needs a Friends group that will provide an independent citizen voice for the protection, conservation, and enhancement of resources.

Volunteers

The Refuge has a core of dedicated volunteers who are committed to protecting the beauty and health of the Refuge. Volunteers perform many of the surveys and maintenance tasks that the staff can not. The Refuge needs to find ways to foster a sense of pride and ownership in the volunteers, while continuing to recruit new help.

Partnerships

The Refuge administers the Partners for Wildlife Program for two Wisconsin counties. Opportunities for watershed improvements and reductions in sedimentation abound. Funding and staff levels allow completion of only a few of these projects each year. Also, the Refuge could benefit from more coordination with Perrot State Park.

Private Property Rights

A variety of issues cross property lines and affect neighboring landowners. Likewise, farming operation and private hunting clubs may impact Refuge lands. There is a need to communicate more efficiently and frequently with Refuge neighbors.

Easement and Right-of Way Management

Work crews and equipment need to cross Refuge lands to access infrastructure on easements on the Refuge. The Refuge needs to develop a management plan for easements and right-of-ways that is consistent with current policies and management recommendations.

Administration and Operations Issues

Entrance Road Flooding

The main entrance road to the Refuge floods seasonally and is impassable for part of the year. The Refuge needs to develop a year-round access road for staff and visitors.



Girl Scouts learn about the land. USFWS



Bird identification program. USFWS

Facilities

Current office, maintenance, and public use facilities are inadequate to support many Refuge programs. Facilities need to be replaced and/or enlarged to accommodate current operations.

Staffing

Staffing levels are below essential staffing needs and reflect gaps between what should be done and what can be done. As public demand for educational programs, biological information, and resource protection increases adequate staffing becomes more critical.

Operations and Maintenance Needs

Plans and planning should articulate the need for staff and funding to manage and administer programs, facilities, and equipment. These needs must be represented in databases and other documents that are used in budget decision-making at the national and regional levels.

Summary of Alternatives Considered

Three reasonable alternatives were developed to address the variety of issues and opportunities facing the Refuge now and during the 15-year horizon of the CCP. These alternatives are summarized below in terms of the actions that would be undertaken in each alternative. Alternative C is the Service's preferred alternative. However, the final

decision can be any of the alternatives, and may reflect a modification of certain elements of any alternative based on consideration of public comment.

Alternative A: No Action (Current Direction)

This alternative assumes no change from past management programs and is considered the base from which to compare the other two alternatives.

Boundary issues would be addressed as time and funding allow. The remaining 340 acres within the approved acquisition boundary and 12 acres outside the boundary would be purchased as opportunities arose.

Habitat management would continue to remain a priority. Invasive plant control in prairie, forest, and wetlands would continue at its present level. The Refuge would maintain its present 335 acres of prairie and savanna using prescribed fire. Biological control of leafy spurge and purple loosestrife, and mechanical and chemical control of black locust, Siberian pea and exotic elm species would limit the spread of these invasive species. In upland forests, the Refuge would restore native species composition to both the understory and overstory by removing black locust, buckthorn, exotic elms, Siberian pea and honeysuckle.

Commercial fishing would continue to be used to manage carp and other rough fish in Pool A. A permitted deer hunt would continue for both the 9-day gun season and the late archery season in order to manage deer numbers. Trapping for raccoon, muskrat, beaver, mink, and opossum would continue.

Public use opportunities would remain at present levels. Limited school programs and programs for scouts and other organized groups would be conducted by staff. Limited waterfowl hunting opportunities would be available for hunters with disabilities. Bank fishing would continue along any shoreline, as well as boat fishing from hand-powered or electric motor powered craft. Hiking would continue on all roads and trails

The staff would remain at its current level of a permanent full-time refuge manager, park ranger, maintenance mechanic, and administrative technician. Volunteers would be used in a variety of programs including biological, public use, clerical, and maintenance. The Refuge would maintain its

present entrance road, which is open to all traffic except for an average of 6 weeks each year when the road is flooded.

The Refuge office would remain as is, but the 70-year-old shop would be replaced.

Alternative B: Wildlife and Habitat Focus

This alternative favors minimal disturbance to wildlife from public use and increased level of effort on fish and wildlife habitat management.

Boundary issues would be addressed with annual inspections, new surveying and installation of an automatic gate at the main entrance. The remaining 340 acres within the approved acquisition boundary and 12 acres outside the current boundary would be purchased as opportunities arose.

Habitat management would be a high priority. Invasive species control in the forested habitats would allow restoration of prairie and oak savanna. Pine plantations would be eliminated. Prescribed fire and mowing would be used to manage the resulting 11 prairie units totaling 585 acres.

Researchers would be actively sought to conduct research to determine effects of management strategies. Monitoring of grasslands, aquatic vegetation, and extent of invasive plant species would be conducted.

Additional dikes and water control structures would be placed within existing impoundments. The C2 impoundment would be divided into three separate units to allow for moist soil management. Three other impoundments would be carved out of Pool B to create manageable units as well as additional emergent habitat. Islands would be built in Pools A and B. Water level management in Pools A and E would continue on their present course. Rough fish would be intensively managed in all pools using commercial fishing and water level management.

The managed deer hunt would continue, but harvest levels would be regulated based on deer population and vegetation monitoring. Furbearer trapping would continue with harvest levels based on population estimates and habitat monitoring. No waterfowl hunting would be allowed. Public use opportunities would be reduced. Environmental education programs would be limited to those that explain Refuge regulations. To reduce disturbance to migrating

birds, all pools would be closed to water craft during fall migration (from September 15 through November 15).

The staff would include the addition of a permanent full-time biologist and a private lands biologist and a seasonal biological technician and tractor operator. The Refuge would maintain its present entrance road, which is open to all traffic except for an average of 6 weeks each year when the road is flooded. The Refuge office would remain as is, but the 70-year-old shop would be replaced.

Alternative C: Integrated Public Use and Wildlife and Habitat Focus (Preferred Alternative)

This alternative focuses on returning upland areas to pre-European settlement habitats, increasing flexibility in wetland management within impoundments, and increasing public use opportunities.

Boundary issues would be addressed with annual inspections, new surveying and installation of an automatic gate at the main entrance. The remaining 340 acres within the approved acquisition boundary and 12 acres outside the current boundary would be purchased as opportunities arose.

Prairie and oak savanna restoration would be a high priority. Increased efforts to control invasive species would be made using biological, mechanical, and chemical methods. Prescribed fire and mowing would be used to manage 11 prairie units totaling 435 acres. Half of the trees in the pine plantations would be removed through selective thinning.

Additional dikes and water control structures would be placed within existing impoundments. The C2 impoundment would be divided into three separate units to allow for moist soil management. The remaining three impoundments (Pools C1, D, and F) would reduce the size of Pool B to a manageable unit as well as create additional emergent habitat. Islands would be built in Pools A and B. Water level management in Pools A and E would continue on their present course. Rough fish, particularly carp, would be managed in specified pools using commercial fishing and water level management.

Researchers would be actively sought to conduct studies that would determine effects of management strategies. Grasslands, aquatic vegetation, and the extent of invasive plant species would be monitored.

The deer hunt would continue as in the past, except harvest levels would be based on population and habitat monitoring. Furbearer trapping would continue and the number of beaver and muskrat taken would be determined based on annual monitoring of harvest and of dike damage and interference with water control structures.

Public use opportunities would be expanded. Environmental education programs would be promoted at local schools and to community groups and the general public. A multi-purpose room would be added to the office/visitor contact station to accommodate larger groups and provide a place for orientation. Waterfowl hunting opportunities would be expanded by opening the area west of the Canadian National Railroad dike to a limited hunt. Ski trails would be maintained when conditions permit. Options to alleviate flooding of the entrance road to provide year-round access to the Refuge would be explored.

Use of volunteers would be expanded in all programs. A Trempealeau NWR Friends Group would be started. Outreach would be expanded to provide opportunities for awareness and understanding of Refuge management and the National Wildlife Refuge System. Traveling exhibits that bring the Refuge to the people would be developed.



Tree Swallow. USFWS

The staff would include the addition of three seasonal positions, including a biological technician, a tractor operator, and a park ranger. Law enforcement duties would be covered by a new position shared with Winona District. A private lands biologist would also be shared with Winona District.

Summary of Environmental Consequences

Consequences Common to All Alternatives

Under all alternatives, there would be no disproportionate adverse effect on minority or low-income populations. No significant changes are expected to climate, soils or environmental contaminants. Cultural and historical resource protection would be addressed in accordance with current laws, regulations, and policies. Prescribed fire would be used under all alternatives to maintain health and vigor of grassland habitat. Any negative effects would be short-term and mitigated by long-term habitat improvements and higher grassland species populations. Landowners adjacent to the Refuge would not see a significant effect on the use or value of their property since none of the alternatives radically change land management direction. Bottomland hardwood forests would increase in acreage under all alternatives. Furbearer populations would not be impacted and trapping would continue for all alternatives. All alternatives call for implementing a new flood policy that would protect refuge infrastructure and habitats from damaging flood waters.

Consequences, Alternative A: No Action

This alternative would cause little change in water quality, suspended sediments or nutrient loading. The quality of wetland habitats would continue to decline as carp and invasive aquatic plants continue to increase. Invasive plants would continue to spread over prairies, oak savannas, and upland forests.

Biologically, Alternative A would have a neutral impact on threatened and endangered species, reptiles and amphibians, and mammals. Wildlife use would continue at existing levels, although in general understory and grassland species would find poor quality habitat invaded by exotic species.

Socioeconomic impacts under Alternative A would be minimal. All current uses would continue with an estimated economic output of \$250,000. Hunting fishing, interpretation, environmental education, wildlife observation, and photography would continue at current levels. The annual economic impact to regional and local economies would remain at current levels.

Consequences, Alternative B: Fish and Wildlife Focus

Under this alternative, reduction of carp and construction of new dikes, islands and water control structures would result in improved water quality, a reduction in suspended sediments, and improved conditions for germination of wetland plants.

Biologically, the manipulations in water levels would improve wetland plant vigor and habitat for a wide range of wetland-dependent fish and wildlife. Alternative B would have a positive impact on threatened and endangered species, waterbirds, landbirds, reptiles and amphibians, and mammals. Upland habitats would benefit from more aggressive control of invasive species. Prairie and oak savanna habitats would expand. Diversity and abundance of native wildlife would increase.

Public use and recreation would be limited as resources are diverted to improving habitats for wildlife. Community involvement would decrease due to lack of public outreach, and less money would flow to local economies from wildlife-dependent recreation. An estimated \$11,000, or a 4 percent loss, of economic output would occur due to loss of visitation. Staffing levels would be better suited to meet demands for wildlife and habitat monitoring.

Consequences, Alternative C: Integrated Public Use and Wildlife Habitat Focus (Preferred)

Under this alternative, reduction of carp and construction of new dikes, islands and water control structures would result in improved water quality, a reduction in suspended sediments, and improved conditions for germination of wetland plants.

In general, habitat quality for wildlife would improve under this alternative. While invasive species would not be totally eliminated, their spread would be controlled and some upland habitats would be restored to historic conditions. Wildlife diversity

and abundance would increase. Alternative C would have a positive impact on waterbirds, landbirds, reptiles and amphibians, and mammals.

Opportunities for wildlife-dependent recreation would improve with additional area open to waterfowl hunting. More resources and staff would be devoted to environmental education and interpretation. Local communities would benefit as more people visited the refuge. Economic output would increase by \$28,000 or 11 percent as more opportunities became available for wildlife-dependent recreation. Staffing levels and facilities would be better suited to meet the needs of an overall program balanced between fish and wildlife monitoring, habitat management, and public use.