



U.S. Fish & Wildlife Service

Mark Twain National Wildlife Refuge Comprehensive Conservation Plan

Project Update

September 2004



Comprehensive Conservation Plan Receives Final Approval

In September 2004, the U.S. Fish and Wildlife Service (Service) announced the completion of the comprehensive conservation plan for the Mark Twain National Wildlife Refuge Complex (Complex).

Refuges within the Complex include: Port Louisa NWR, Great River NWR, Clarence Cannon NWR, Two Rivers NWR, and Middle Mississippi River NWR.

The comprehensive conservation plan, or CCP, is intended to outline how the Complex refuges will fulfill their legal purposes and contribute to the National Wildlife Refuge System's wildlife, habitat and public use goals. The plan articulates management goals for the next 15 years and specifies the objectives and strategies needed to accomplish these goals. While the planned future condition is long-term, we anticipate that the plan will be updated every 5 to 10 years based on information gained through monitoring habitat and wildlife, as well as recreational usage.

Stretching along the Mississippi River floodplain, the Complex is a mosaic of big river, wetland, forest, grassland and cropland. Each habitat type plays an important role in providing the resources necessary to support a rich diversity of fish and wildlife. The Mississippi River is one of the most important migration corridors in the world, with millions of migratory birds using the corridor each year during fall and spring migration.

Where You Can Find the CCP

The CCP is available online at <http://midwest.fws.gov/planning/marktwain/index.html>, and copies are also available at refuges within the Mark Twain NWR Complex:

*Mark Twain NWR
Complex Headquarters
1704 North 24th Street
Quincy, IL 62301*

*Middle Mississippi
River NWR
c/o Crab Orchard
8588 Route 148
Marion Ill., 62959*

*Two Rivers NWR
HCR 82
Brussels, IL 62013*

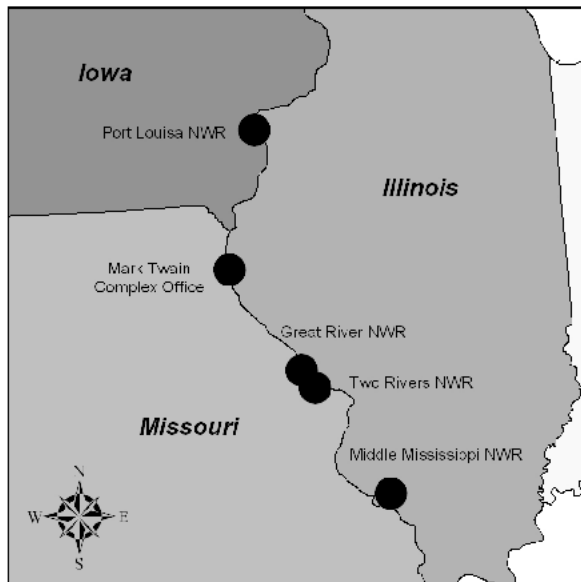
*Great River NWR
P.O. Box 88
Annada, MO 63330*

*Port Louisa NWR
10728 County Road X61
Wapello, IA 52653-9477*

Copies are also available in libraries in communities surrounding the refuges.

The Planning Process

The Mark Twain CCP effort began in 1997 with internal scoping of the issues among Refuge and Regional Office staff. Throughout the duration of the planning process, we worked with the departments of natural resources in Iowa and Illinois and the Missouri Department of Conservation. We also worked extensively with the U.S. Army Corps of Engineers. Public involvement has been a key part of the process. We began by hosting open houses in local communities to discuss the plan and receive comments, and open houses were conducted again following the release of the Draft CCP in July 2003. The plan received final approval in August 2004.



The following is a summary of major issues that are addressed in the goals, objectives, and strategies developed in the CCP:

- Water level management
- Fishery resources
- Forest management
- Recreational opportunities
- Wildlife disturbance by recreational visitors
- Waterfowl habitat management
- Environmental Management Program
- Siltation and water quality
- Habitat for non-game migratory birds
- Facilities repair and upkeep
- Contaminant-free, abundant wildlife
- Hunting/fishing/trapping opportunities
- Land acquisition
- Interagency partnership and coordination
- Balance between the competing uses and users of the River
- Restoration of backwaters, side channels, and associated wetlands.

Who We Are and What We Do

The U.S. Fish and Wildlife Service is the primary federal agency responsible for conserving, protecting, and enhancing fish and wildlife and their habitats for the continuing benefit of the American people. Our specific responsibilities include enforcing federal wildlife laws, managing migratory bird populations, restoring nationally significant fisheries, administering the Endangered Species

Act, and restoring wildlife habitat such as wetlands. The mission of the Service is to work with others to conserve, protect, and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people.

The Service's role also includes managing the National Wildlife Refuge System, the world's largest collection of lands specifically managed for fish and wildlife. The System is a network of more than 540 national wildlife refuges encompassing more than 93 million acres of public land and water. The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Refuges are also unique places for people. When it is compatible with wildlife and habitat needs and the purpose for which the refuge was established, they can be used for wildlife- dependent activities such as hunting, fishing, wildlife observation, photography, environmental education and environmental interpretation.

Refuge Complex Goals

The CCP established clear goals for the Mark Twain NWR Complex refuges over the next 15 years. Objectives for achieving each goal and strategies for achieving each objective are detailed in the CCP. Goals for the Complex are:

- *Wetlands and Aquatic Habitat:* Restore, enhance, and manage complex wetland and aquatic areas to provide quality diverse habitat for waterfowl, shorebirds, big river fish, and other wetland-dependent species.
- *Forest Habitat:* Conserve and enhance floodplain forest to meet the needs of migrating and nesting neotropical birds and other forest-dependent wildlife.
- *Other Terrestrial Habitats:* Protect, enhance, and restore other terrestrial habitats to benefit grassland birds, waterfowl and neotropical migrants.
- *Sedimentation and Water Quality:* Identify and reduce the impacts of sedimentation and other water quality factors, such as contaminants, on fish and wildlife resources.
- *Floodplain Management:* Enhance floodplain functions and, where practicable, mimic historical water level fluctuations in the river corridor.
- *Public Use and Education:* Provide wildlife- dependent recreation opportunities where appropriate, and

improve the quality and safety of the recreational experience. Enhance environmental education and interpretive efforts by developing and improving complex programs and facilities, and partnering with others to increase awareness of the Complex, the Mississippi River, and the National Wildlife Refuge System.

- **Monitoring:** Develop and implement a wildlife, habitat, and public use monitoring program, integrated with interagency efforts along the river corridor, to evaluate the effectiveness of Complex management programs and to provide information for adaptive management strategies.

Management Direction

In the next 15 years, management of the Refuge Complex will focus on restoring riverine habitat for migratory birds and indigenous fish and increasing floodplain functions such as connectivity and flood water storage via expanded boundary. Adaptive management techniques will be utilized to monitor conditions and aid in management adjustments necessary to work with varying conditions of the river.

We will explore opportunities to improve habitat diversity for fish and wildlife resources on the Upper Mississippi River System through direct land management or providing technical assistance to private landowners within the 500-year floodplain, referred to as the Area of Ecological Concern. The Area of Ecological Concern includes nearly 1,400,000 acres extending from River Mile 493 at Lock and Dam 15 to River Mile 0 at the confluence of the Ohio River. Planning for a watershed the magnitude of the Upper Mississippi River System would include a good portion of



the continent, and the Area of Ecological Concern was defined recognizing that there are practical limitations to the Refuge Complex's ability to evaluate floodplain areas for possible restoration.

The current divisions of the Complex refuges have varying amounts of water level control, flood control, and floodplain connectivity. Some divisions are completely open to the River and its flood pulses; others are partially protected by levees with spillways; and one division (Delair) receives protection from a major agricultural levee built prior to Service acquisition.



Refuges in the Complex will be managed using an integrated approach to floodplain management. When making floodplain management decisions within the Area of Ecological Concern, each refuge manager will consider a range of desirable options including:

- Connecting the River to its floodplain.
- Reducing backwater sedimentation.
- Managing water levels to re-create natural wet/ dry cycles.
- Reducing agriculture and facilities in flood-prone areas.
- Promoting partnerships and interagency coordination to encourage a balanced floodplain management program throughout the AEC.

Additional staffing and funding will be needed for implementation of many of the strategies in the Plan. Additional public use opportunities will be created by acquiring additional floodplain lands, and enhancing facilities on current divisions. New trails, observation platforms, information kiosks and boardwalks will offer educational opportunities to the public, while constructed in a "flood-friendly" manner. Visitor contact stations and exhibits will be constructed and/ or enhanced to improve outreach efforts. Additional hunting, fishing and non-consumptive wildlife uses will be implemented where biologically compatible. Monitoring will assess biological changes to the floodplain following land acquisition and guide adaptive management of these areas as we learn more over time.

Land Preservation Component

Perhaps the most significant management issue put forth in the CCP is the proposal to expand the boundaries of the Refuge Complex by 27,659 acres. Acquisition will occur on a willing-seller-only basis as funds are available.

Considerations for selecting specific parcels and their priority will be based on their potential to assist with:

- Refuge purposes;
- The goals and objectives of the CCP;
- Interagency input, such as the jointly prepared Middle Mississippi River Habitat Rehabilitation Initiative, and other habitat focus areas;
- The sites' potential to restore riverine wetland and forest values;
- Levee District flood histories; and
- The opportunity to remove agriculture from the most flood prone and erodible areas.

How the CCP Affects Refuges

As a result of changes planned in the CCP, Refuge Complex habitats will be managed in a different proportion from the 1989 baseline coverage to the desired future condition in 2015. Open water areas will be reduced from 5,200 acres to 2,900 acres. This is largely due to the Swan Lake area at Two Rivers NWR being converted from a backwater with a flocculent bottom and no aquatic vegetation to a consolidated bottom wetland that will support vegetation. All wetland types increased by 4,500 acres to a total of over 9,000 acres within the Complex. Forest habitats will be increased by 4,630 to a total of 18,460. Grasslands are increased from 725 to 1,900 acres. Agriculture decreases from 9,100 to 1,100 acres. This decrease is due to restoration of areas newly acquired in the 1990s following the Great Flood of 1993, along with a substantial shift in existing refuge management practices. Other habitat types are changed very little due to the proposals.

Public Use and Education

The 1997 Refuge Improvement Act states that the primary purpose of the National Wildlife Refuge System is wildlife conservation. In addition, Congress recognized that certain public uses should take priority over other public uses when they do not detract from the primary purpose of wildlife conservation. These priority wildlife-dependent recreational uses are hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

Not every division in the Complex is open to all six wildlife-dependent public uses. Some divisions are open year-round for public use while other divisions are closed to public access in the fall and early winter to provide sanctuary for migratory birds. Each refuge headquarters has an inadequate visitor contact station, and public use and education activities account for no more than 10 to 15 percent of staff duties at current staffing levels. In this plan, new observation decks and interpretive signs are being proposed at several divisions at optimal, higher elevations where floods will cause minimal damage. All refuges within the Complex also propose to enhance each of the priority recreational uses, develop new interpretive brochures, increase volunteer programs, and establish Friends Groups.

Monitoring

The monitoring priorities of the Complex will focus on data needed to support management objectives. Surveys will focus on the Mark Twain Complex species of concern and their preferred habitats. In addition, numerous other partners are involved in monitoring efforts conducted within the AEC including the U.S. Army Corps of Engineers, U.S. Geologic Survey, and state natural resource agencies. The

Complex will integrate these larger-scale River corridor monitoring efforts with refuge site-specific data to the degree applicable. Each refuge will develop a step-down inventory and monitoring plan for wildlife, habitat, and public use. A well-designed monitoring program will improve refuge management by focusing limited resources on specific management questions and enabling decision-making based on adaptive management. The Complex will use new information to assess and modify management strategies needed to achieve overall goals and objectives. Minor modifications will be implemented by individual refuges if warranted by changing circumstances or river conditions. Any major modifications of program direction will be reflected in formal revisions of this CCP.

