Chapter 1: Introduction, Purpose and Need, and Planning Background

Entrance sign at Upper Mississippi River NW&FR.

1.1 Introduction

This document is an integrated Draft Comprehensive Conservation Plan (CCP) and Environmental Impact Statement (EIS) for the Upper Mississippi River National Wildlife and Fish Refuge (Refuge). It will follow the basic and accepted format for an EIS and each alternative presented will contain the core of a CCP, namely goals, objectives, and strategies. Since it is an integrated document designed to meet the requirements for both an EIS and a CCP, some sections in the EIS format were expanded (notably Chapter 1, Planning Background) to meet this dual function. In addition, various referenced appendices relate to either the EIS, CCP, or both, as applicable.

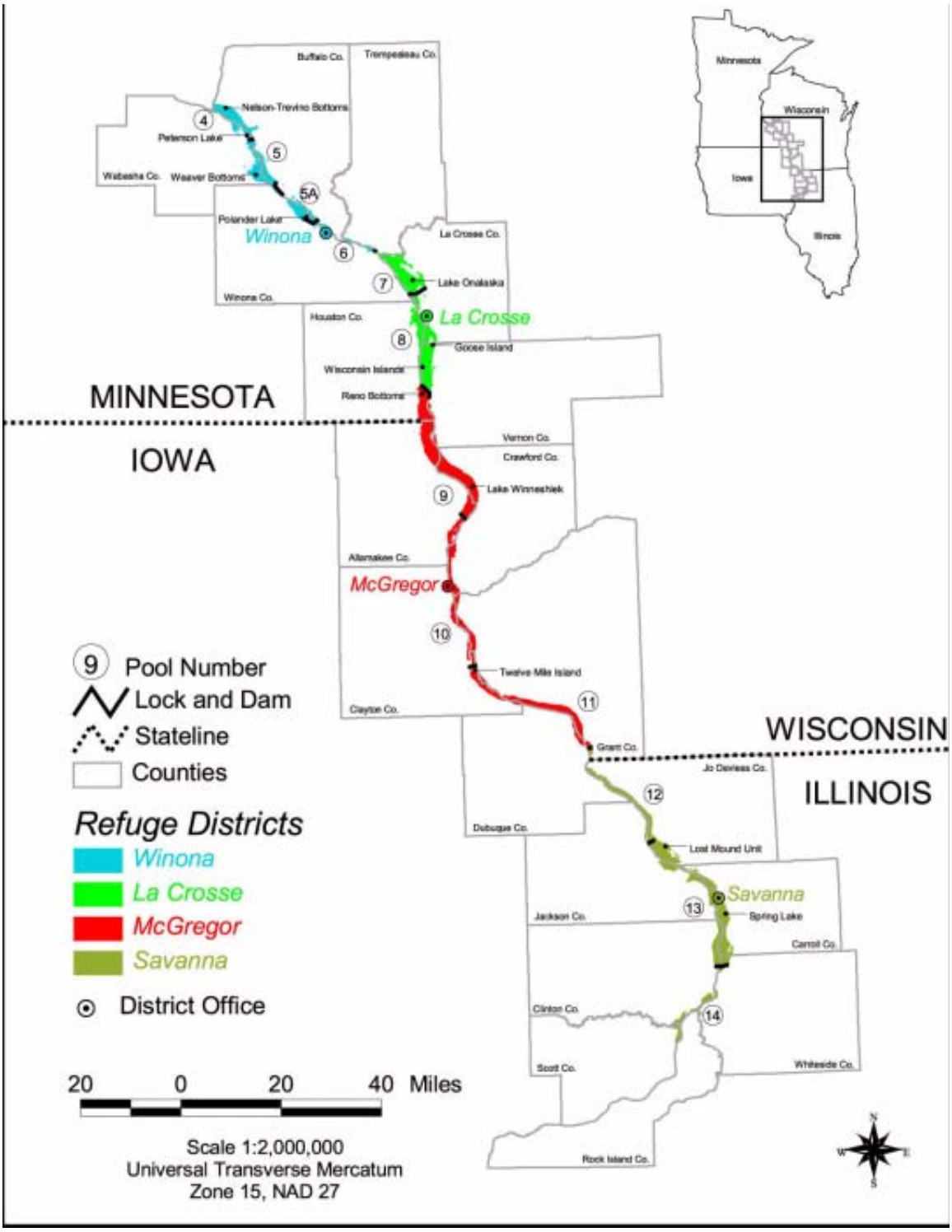
The Refuge was established by an Act of Congress on June 7, 1924, as a refuge and breeding place for migratory birds, fish, other wildlife, and plants. The Refuge encompasses approximately 240,000 acres of Mississippi River floodplain in a more-or-less continuous stretch of 261 river-miles from near Wabasha, Minnesota to near Rock Island, Illinois. See Appendix C for the legislation establishing the Upper Mississippi River National Wildlife and Fish Refuge.

The location and surrounding area of the Refuge is shown in Figure 1.

The Refuge is an invaluable natural legacy in a complex geopolitical landscape:

- A national scenic treasure – river, backwaters, islands, and forest framed by 500-foot high bluffs;
- Interface with four states, 70 communities, and two Corps of Engineers districts;
- A series of 11 navigation locks and dams within overall boundary;
- Represented by eight U.S. Senators and six U.S. Representatives;
- National Scenic Byways on both sides;
- 3.7 million visitors in 2004, the most of any national wildlife refuge;
- Diverse wildlife: 306 species of birds, 119 species of fish, 51 species of mammals, and 42 species of mussels;
- Designated a Globally Important Bird Area;

Figure 1: Location of Upper Mississippi River NWFR



- Up to 40 percent of the continent's waterfowl use the river flyway during migration;
- Up to 50 percent of the world's Canvasback ducks stop during fall migration;
- Up to 20 percent of the eastern United States population of Tundra Swans stop during fall migration;
- 136 active Bald Eagle nests in recent years;
- A peak of up to 1,000 Bald Eagles during winter months;
- Approximately 5,000 heron and egret nests in up to 15 colonies;

The Refuge is a part of the National Wildlife Refuge System, which includes more than 540 refuges and more than 3,000 waterfowl production areas, a total of 95 million acres of lands set aside for wildlife habitat. The Refuge System is administered by the U.S. Fish and Wildlife Service, Department of the Interior.

The Refuge is divided into four districts for management, administrative, and public service effectiveness and efficiency. The Refuge is also divided geographically by river pools that correspond with the navigation pools created by the series of locks and dams on the Upper Mississippi River. District offices are located in Winona, Minnesota (Pools 4-6), La Crosse, Wisconsin (Pools 7-8), McGregor, Iowa (Pools 9-11) and Savanna, Illinois (Pools 12-14). The Refuge currently has 37 permanent employees and an annual base operations and maintenance budget of $3.1 million.

The Refuge has an overall Headquarters in Winona, Minnesota which provides administrative, biological, mapping, visitor services, planning, and policy support to the districts. District managers are supervised by the refuge manager located in Winona. Two other national wildlife refuges, Trempealeau and Driftless Area, are also part of the Refuge Complex and are under the supervision of the Winona and McGregor district managers, respectively. Separate CCPs are also being prepared for Trempealeau NWR and Driftless NWR, although scoping was done concurrently with scoping for this CCP and EIS.

1.2 Purpose and Need for Action

1.2.1 Purpose

The purpose of this Environmental Impact Statement (EIS) is to adopt and implement a Comprehensive Conservation Plan (CCP) for Upper Mississippi River National Wildlife and Fish Refuge. The Service is considering a range of alternatives of how best to manage the Refuge. A second purpose of the EIS is to present and adopt a Fire Management Plan for the Refuge.

Comprehensive conservation plans are designed to guide the management and administration of national wildlife refuges for a period of 15 years and help ensure that each refuge meets the purpose for which it was established and contributes to the overall mission of the Refuge System. The CCP helps describe a desired future condition of the refuge, and provides both long-term and day-to-day guidance for management actions and decisions. It provides both broad and specific policy on various issues, sets goals and measurable objectives, and outlines strategies for reaching those objectives. A CCP also helps communicate to other agencies and the public a management direction for a refuge to meet the needs of both wildlife and people.

The Refuge Improvement Act of 1997 mandates that the Secretary of the Interior, and thus the Service, prepare CCPs for all units of the National Wildlife Refuge System by October 2012. In addition to this mandate, there are other reasons why preparation of a CCP is needed at this time.

The last comprehensive plan (known as a Master Plan) was completed in 1987. Since then, the river environment has undergone change affecting habitat and wildlife; new laws and policies have been put in place; new scientific information is available; and levels of public use and interest have increased. The planning process is also an excellent way to inform and involve the general public, state and federal agencies, and non-government groups who have an interest, responsibility, or authority in the management or use of certain aspects of the Upper Mississippi River and the Refuge.

Lesser Scaup
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Finally, the National Environmental Policy Act of 1969 requires that federal agencies, and thus the Service, follow basic requirements for major actions significantly affecting the quality of the human environment. These requirements are: 1) consider every significant aspect of the environmental impact of a proposed action; 2) involve the public in its decision-making process when considering environmental concerns; 3) use a systematic, interdisciplinary approach to decision making; and 4) consider a reasonable range of alternatives. This EIS documents those requirements and provides the necessary information and analysis to the decision-maker or responsible official.

1.2.2 Need

The CCP that ultimately arises from this Draft CCP and EIS will help ensure that management and administration of the Refuge meets the mission of the Refuge System, the purpose for which the Refuge was established, and the goals for the Refuge. The mission, purpose, and goals are considered the needs or benchmarks for defining reasonable alternatives presented in Chapter 2, and along with an evaluation of consequences in Chapter 4, will form the basis for a decision. These three needs are summarized below. More detail on issues related to these needs can be found in Section 1.4.5.

Need 1: Contribute to the Mission

The mission of the National Wildlife Refuge System set forth in the Refuge Improvement Act of 1997 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."

Need 2: Help Fulfill the Purposes

The 1924 Refuge act set forth the purposes of the Refuge, which remain valid to this day, and guide planning, management, administration, and use of the refuge:

"a. as a refuge and breeding place for migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, and

b. to such extent as the Secretary of Interior may by regulations prescribe, as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and

c. to such extent as the Secretary of Interior may by regulations prescribe as a refuge and breeding place for fish and other aquatic animal life."

Need 3: Help Achieve Refuge Goals

1. Landscape. We will strive to maintain and improve the scenic qualities and wild character of the Upper Mississippi River NW&FR.

Related needs are to:
a. maintain the integrity of the refuge boundary
b. complete acquisition within approved boundary
c. protect blufflands for scenic qualities and migratory birds
d. ensure integrity of designated Research Natural Areas
e. seek designation as a Wetland of International Importance.

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

Related needs are to:
a. reduce sediment, nutrient, and contaminants in water
b. restore aquatic vegetation in navigation pools on the Refuge
c. understand and reduce invasive species

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

Related needs are to:
a. improve habitat on all pools within Refuge
b. provide guidance for habitat management projects
c. monitor status and trends of key fish and wildlife
d. protect and enhance federally listed threatened, endangered and candidate species
e. evaluate and update furbearer trapping program
f. improve fishery and mussel conservation efforts
g. improve management and oversight of commercial fishing
h. improve understanding and management of turtles
i. evaluate and manage forest resources
j. maintain and enhance grassland habitat

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.

Related needs are to:
a. ensure diverse and abundant hunting and fishing opportunities

b. improve effectiveness of Closed Area system to meet the food and rest needs of waterfowl
c. ensure consistency and efficiency of hunting programs
d. reduce user conflicts and ensure equitable hunting opportunities for a broad cross-section of the public
e. reduce environmental and social impacts from competitive sporting activities
f. improve opportunities for wildlife observation and photography
g. improve opportunities for interpretation and environmental education
h. bring all commercial fish floats/piers into compliance with safety and administrative guidelines
i. improve management and oversight of growing number of commercial guide services

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.

Related needs are to:
a. reduce environmental and social impacts from beach-related uses and develop beach maintenance policy
b. address fish and wildlife disturbance and user conflicts in backwater areas
c. reduce safety and erosion problems on some boating corridors
d. clarify domestic animal use regulations
e. update public use regulations for clarity and effectiveness

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.

Related needs are to:
a. provide adequate staff to meet resource and public challenges and opportunities
b. provide staff with adequate office and maintenance facilities
c. provide adequate information to the public on recreational opportunities and resource challenges
d. improve access to the Refuge for public enjoyment
e. identify operational and maintenance shortfalls

1.3 Decision Framework

The Service's Regional Director at Ft. Snelling, Minnesota, is the responsible official for approving the Final CCP and EIS in a Record of Decision. The Record of Decision will identify the selected alternative which will become the Final CCP. The selected alternative will be one of the alternatives in this Draft CCP and EIS, although the final decision may reflect modification of certain elements

of the alternatives based on public review and comment. The Final EIS will also contain individual substantive comments, or a summary of like-comments, received from the public, agencies, and other interested parties, along with a Service response.

1.4 Planning Background

1.4.1 Legal and Policy Framework

The Upper Mississippi River National Wildlife and Fish Refuge is managed and administered as part of the National Wildlife Refuge System within a framework of organizational setting, laws, and policy. Key aspects of this framework are outlined below. A list of other laws and executive orders that have guided preparation of the CCP and EIS, and guide future implementation, are provided in Appendix D.

U.S. Fish and Wildlife Service

The Refuge is administered by the U.S. Fish and Wildlife Service, Department of the Interior. The Service is the primary federal agency responsible for conserving and enhancing the nation's fish and wildlife populations and their habitats. Although the Service shares this responsibility with other federal, state, tribal, local, and private entities, the Service has specific trust responsibilities for migratory birds, threatened and endangered species, certain interjurisdictional fish and marine mammals, and the National Wildlife Refuge System. The mission of the Service is:

"Working with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

1.4.1.1 The National Wildlife Refuge System

The Refuge System had its beginning in 1903 when President Theodore Roosevelt used an Executive Order to set aside tiny Pelican Island in Florida as a refuge and breeding ground for birds. From that small beginning, the Refuge System has become the world's largest collection of lands specifically set aside for wildlife conservation. The administration, management, and growth of the Refuge System are guided by the following goals (Director's Order, January 18, 2001):

- To fulfill our statutory duty to achieve Refuge purpose(s) and further the System mission.
- To conserve, restore where appropriate, and enhance all species of fish, wildlife, and plants that are endangered or threatened with becoming endangered.
- To perpetuate migratory bird, interjurisdictional fish, and marine mammal populations.
- To conserve a diversity of fish, wildlife, and plants.
- To conserve and restore where appropriate representative ecosystems of the United States, including the ecological processes characteristic of those ecosystems.
- To foster understanding and instill appreciation of native fish, wildlife, and plants, and conservation, by providing the public with safe, high-quality, and compatible wildlife-dependent public use. Such use includes hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

1.4.1.2 The National Wildlife Refuge System Improvement Act of 1997 and Related Policy

The Improvement Act of 1997 amended the National Wildlife Refuge System Administrative Act of 1966 and became a true organic act for the System by providing a mission, policy direction, and management standards. Below is a summary of the key provisions of this landmark legislation, and subsequent policies to carry out the Act's mandates.

Established Broad National Policy for the Refuge System:

- Each refuge shall be managed to fulfill the mission and its purposes.
- Compatible wildlife-dependent recreation is a legitimate and appropriate use.
- Compatible wildlife-dependent uses are the priority public uses of the System.
- Compatible wildlife-dependent uses should be facilitated, subject to necessary restrictions.

Directed the Secretary of the Interior to:

- Provide for the conservation of fish, wildlife, and plants within the System.
- Ensure biological integrity, diversity, and environmental health of the System for the benefit of present and future generations.
- Plan and direct the continued growth of the System to meet the mission.
- Carry out the mission of the System and purposes of each refuge; if conflict between, purposes takes priority.
- Ensure coordination with adjacent landowners and the states.
- Assist in the maintenance of adequate water quantity and quality for refuges; acquire water rights as needed.
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the System.
- Ensure that opportunities for compatible wildlife-dependent recreation are provided.
- Ensure that wildlife-dependent recreation receives enhanced consideration over other uses of the System.
- Provide increased opportunities for families to enjoy wildlife-dependent recreation.
- Provide cooperation and collaboration of other federal agencies and states, and honor existing authorized or permitted uses by other federal agencies.
- Monitor the status and trends of fish, wildlife, and plants in each refuge.

Provide Compatibility of Uses Standards and Procedures:

- New or existing uses should not be permitted, renewed, or expanded unless compatible with the mission of the System or the purpose(s) of the refuge, and consistent with public safety.
- Wildlife-dependent uses may be authorized when compatible and not inconsistent with public safety.
- The Secretary shall issue regulations for compatibility determinations.

Planning:

- Each unit of the Refuge System shall have a Comprehensive Conservation Plan completed by 2012.
- Planning should involve adjoining landowners, state conservation agencies, and the general public.

Compatibility Policy

No use for which the Service has authority to regulate may be allowed on a unit of Refuge System unless it is determined to be compatible. A compatible use is a use that, in the sound professional judgment of the refuge manager, will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purposes of the national wildlife refuge. Managers must complete a written compatibility determination for each use, or collection of like-uses, that is signed by the manager and the Regional Chief of Refuges in the respective Service region. Draft compatibility determinations applicable to uses described in this draft CCP and EIS are included in Appendix E.

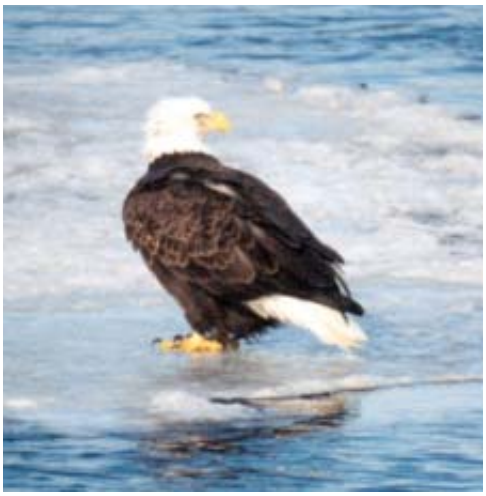
Biological Integrity, Diversity, and Environmental Health Policy

The Service is directed in the Refuge Improvement Act to "ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans…" The biological integrity policy helps define and clarify this directive by providing guidance on what conditions constitute biological integrity, diversity, and environmental health; guidelines for maintaining existing levels; guidelines for determining how and when it is appropriate to restore lost elements; and guidelines in dealing with external threats to biological integrity, diversity and health.

1.4.1.3 Research Natural Area Policy

The Refuge currently has four Research Natural Areas (Nelson-Trevino, 3,740 acres, Wisconsin, Winona District; Reno Bottoms, 1,980 acres, Minnesota, McGregor District; Twelve Mile Island, 900 acres, Iowa, McGregor District; and Thomson-Fulton Sand Prairie, 321 acres, Illinois, Savanna District). The Service's Refuge Manual, Section 8 RM 10, provides guidance for management, administration, and public use of Research Natural Areas, and lists the following objectives of the designations:

- To participate in the national effort to preserve adequate examples of all major ecosystem types or other outstanding physical or biological phenomena;
- To provide research and educational opportunities for scientists and others in the observation, study, and monitoring of the environment; and
- To contribute to the national effort to preserve a full range of genetic and behavioral diversity for native plants and animals, including endangered and threatened species.



Bald Eagle
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1.4.2 Brief Refuge History and Purposes

The creation of the Refuge was largely the result of the Izaak Walton League, and in particular, the efforts of its founder and leader, Will Dilg. Dilg, an advertising executive in Chicago and an avid angler and lover of the outdoors, formed the Izaak Walton League in 1922. For nearly two decades, Dilg had spent much of the summer fishing and enjoying the Upper Mississippi River. In the summer of 1923, he learned of a plan to drain a large portion of the river backwaters and came up with an ambitious solution to the drainage scheme: turn the entire stretch of river into a federal refuge. Remarkably, one year later, due to Dilg's determination, Congress passed the Upper Mississippi River Wild Life and Fish Refuge Act on June 7, 1924. The act authorized the acquisition of land for a refuge between Rock Island, Illinois and Wabasha, Minnesota.

The Refuge name was changed administratively to the Upper Mississippi River National Wildlife and Fish Refuge in 1983 by adding the word "National" and changing the two-word Wild Life to the accepted and widely-used single-word "Wildlife" (Regional Director Bulletin, February 28, 1983). The new name was affirmed legislatively by Congress in 1998 through amendment to the original act (Public Law 105-312, October 30, 1998).

The 1924 act set forth the purposes of the Refuge as follows:

- "...as a refuge and breeding place for migratory birds included in the terms of the convention between the United States and Great Britain for the protection of migratory birds, concluded August 16, 1916, and
- to such extent as the Secretary of Agriculture[1] may by regulations prescribe, as a refuge and breeding place for other wild birds, game animals, fur-bearing animals, and for the conservation of wild flowers and aquatic plants, and
- to such extent as the Secretary of Commerce[2] may by regulations prescribe as a refuge and breeding place for fish and other aquatic animal life."

The 1924 Act also had stipulations that would prove to have management implications to this day. First, the states of Minnesota, Wisconsin, Iowa, and Illinois had to give their consent before land acquisition could occur. This consent was granted, with varying conditions, by all the states in 1925. Second, the act specifically prohibited any interference with the operations of the War Department in carrying out any project now or in the future for the improvement of the river for navigation. Both of these stipulations are discussed more fully in section 1.4.3.

Land acquisition proceeded rapidly beginning in 1925 using funds appropriated by Congress, and from the withdrawal of public domain or federally-owned islands and other lands in the floodplain. Approximately 90,000 acres were acquired. In 1930, Congress authorized the 9-foot navigation project on the Upper Mississippi River, and the Bureau of Biological Survey (precursor to the Fish and Wildlife Service) soon suspended most acquisition. The Corps of Engineers acquired approximately 106,000 acres within the generally accepted boundary of the Refuge that was needed for the construction of a series of locks and dams and subsequent raising of water levels. Management jurisdiction over much of the Corps-acquired land was transferred to the Service, with reservations, through a series of cooperative agreements in 1945, 1954, and 1963. The agreement was simplified and language updated in a 2001 amendment. The agreement is discussed more fully in section 1.4.3.1.

Spanning 80 years, the history of the Refuge is varied, storied, and complex, and shaped by organizational, political, and social influences. Surprisingly, there is no consolidated history of the Refuge and historic information remains a mostly disjointed collection of notes, memos, files, and reports. The most complete legal history is contained in a report done by law intern Michael Fairchild in 1982 titled "The Legal and Administrative History of the Upper Mississippi River Wild Life and Fish Refuge." This report is available at Refuge headquarters in Winona.

Today, the Refuge encompasses nearly 240,000 acres of land and water as determined by Geographic Information System, or GIS, analysis. The Refuge remains perhaps the most important corridor of fish and wildlife habitat in the central United States, an importance which has increased over time as habitat losses or degradation have occurred elsewhere.

1.4.3 Relationship to Corps of Engineers and the States, and Other Conservation Initiatives

1.4.3.1 Corps of Engineers

The Corps of Engineers, Department of the Army, has played an active role in the physical and environmental changes on the Mississippi River, and thus the Refuge, for more than 100 years. In

1.Changed to Secretary of the Interior pursuant to reorganization and transfer of functions in 1939 (16 USC 721-731).

2.Changed to Secretary of the Interior pursuant to reorganization and transfer of functions in 1939 (16 USC 721-731).

1871, Congress approved funding for the Corps to improve the river for navigation, mainly through the removal of snags and occasional dredging. By 1878, the Corps was maintaining a 4-foot deep navigation channel on the river and in 1910, Congress authorized a 6-foot navigation channel. The channel was maintained mainly by directing more river current to the main channel of the river through wing dams and backwater closing structures. Demand for greater river shipping capacity and reliability led to Congress in 1930 authorizing and funding a 9-foot navigation channel, and eventually, a series of 29 locks and dams between St. Louis, Missouri and Minneapolis, Minnesota (11 are within the generally accepted boundary of the Refuge). With the Refuge already established, the 9-foot channel would forever link the fate of the Refuge with the Corps of Engineers.

First, acquisition of land for the Refuge by the Bureau of Biological Survey (now the Service) was suspended since the Corps had more funding and needed to move quickly to keep the 9-foot project on track. The planned locks and dams would flood thousands of acres of floodplain that needed to be acquired. It also made sense to not have two federal agencies competing for the same land. The Corps thus acquired approximately 106,000 acres within the generally accepted boundary of the Refuge. Some of the Corps-acquired land was transferred to the Service via Executive Orders in 1935 and 1936. Locks and dams were completed on the stretch of the river designated for the Refuge between 1935 (Lock and Dam 4 and 5) and 1939 (Lock and Dam 13).

However, it did not take long for conflicts to emerge since the Service and the Corps acquired land under different authorities for markedly different purposes: fish and wildlife conservation versus commercial navigation. To help clarify agency roles and responsibilities, cooperative agreements were negotiated and signed in 1945, 1954, 1963, and 2001 (amended the 1963 agreement), each time bringing more clarity to who managed what within the Refuge. An excellent and thorough history of the cooperative agreements is found in the CCP for Mark Twain National Wildlife Refuge Complex, Chapter 3, available on-line at http://midwest.fws.gov/planning/marktwain/index.html.

In summary, the cooperative agreement grants to the Service the rights to manage fish and wildlife and its habitat on those lands acquired by the Corps. These lands are considered part of the Refuge and the National Wildlife Refuge System. The Corps retained the rights to manage as needed for the navigation project, forestry, and Corps-managed recreation areas, and all other rights not specifically granted to the Service. A copy of the cooperative agreement can be found in Appendix F. As part of the planning process, the Refuge initiated efforts with the Corps to amend the current agreement to clarify language on the responsibility and authority of each agency, especially in regard to recreational uses.

Other conflicts over the years between navigation, fish and wildlife conservation, and recreation influenced Refuge and Corps cooperative working arrangements. In the 1950s and 1960s, there was growing concern over the common practice of placing dredged material from navigation channel maintenance in the marshes and backwaters of the river. These concerns were heightened with talk of a 12-foot navigation channel in the mid-1960s; new studies on dredging impacts; and new national environmental laws such as the Water Resources Planning Act of 1962, National Environmental Policy Act of 1969, and the Federal Water Pollution Control Act of 1972. In 1974, the State of Wisconsin filed suit against the Corps prohibiting further dredge spoil on lands within the state. Minnesota followed with their own prohibition. These actions were the impetus for more structured cooperation.

In 1974, the Corps and the Service began work on a long-range management strategy for the Upper Mississippi River. A broad-based task force representing five states and several federal agencies was formed under the auspices of the Upper Mississippi River Basin Commission, and became the Great River Environmental Action Teams (GREAT). The Great River Study was authorized by Congress in 1976 and called upon the Corps, in concert with other agencies and the states, to develop a management plan that looked at the needs of navigation, barge traffic, fish and wildlife, recreation, watershed management, and water quality. The resulting GREAT studies not only provided a

comprehensive look at all aspects of the Upper Mississippi River, but provided the institutional framework for the Service, Corps, states and other agencies to work together to meet often divergent needs and mandates.

In 1978, Congress mandated that the Upper Mississippi River Basin Commission complete a comprehensive master plan for the Upper Mississippi River, which includes the Refuge. The plan was completed in 1982 and encompassed many of the recommendations developed in the GREAT studies for dredge material disposal, fish and wildlife conservation, and recreation management.

In 1983, the Service and the Corps (St. Paul District), in cooperation with Minnesota, Wisconsin, and Iowa, completed a Land Use Allocation Plan for Refuge- and Corps-acquired lands in Pools 1-10 (Pools 4-10 affect the Refuge). The plan, through policy statements and detailed maps, provided a clear, practical, and balanced plan to guide future federal land use actions. In effect, the plan was a zoning plan for federal lands, allocating lands in the floodplain for wildlife management, navigation project operations, low-density recreation, intensive recreation, and natural areas. A similar plan for Pools 11-14 was completed with the Corps (Rock Island District), in cooperation with Wisconsin, Iowa, and Illinois in 1986 as part of the Refuge Master Plan process completed in 1987. Both Land Use Allocation Plans remain important references for day-to-day operations and project planning for the Refuge and the Corps, although updates are needed to reflect new acquisitions and changing resource needs.

In 1986, Congress authorized the Corps of Engineers to carry out an Environmental Management Program (EMP) as part of the Water Resource Development Act of the same year. The EMP is composed of two elements: 1) planning, construction and evaluation of fish and wildlife habitat rehabilitation and enhancement projects, or HREPs, and 2) long-term resource monitoring including analysis and applied research, known as LTRMP. To date, the EMP has completed 40 habitat projects with another 8 under construction and 16 in various stages of design with a total affected area of 140,000 acres. Many of these projects are on the Refuge as well as the other Upper Mississippi River refuges of Trempealeau, Mark Twain Complex, and Illinois River Complex. The LTRMP element has provided critical information on the status and trends of fish, wildlife, and aquatic plants; GIS habitat analysis; and other useful scientific information used in refuge management and planning.

In 2004, the Corps of Engineers released a Draft Upper Mississippi River-Illinois Waterway System Navigation Feasibility Study after nearly 10 years of effort. The Service and the Refuge have been involved in review and comment of the study at virtually every stage. The study recommends a dual-purpose approach of improving both navigation efficiency and river ecosystem restoration, the latter at a scale that would be many times larger than the current EMP, and more comprehensive in terms of the floodplain affected and the scope of projects that could be undertaken. Although action by Congress is uncertain, the study may hold great promise in reversing decades of habitat decline on the Upper Mississippi River and the Refuge.

Ongoing Refuge coordination with the Corps and the states is accomplished at several levels. One of the long-standing coordination frameworks is the interagency teams organized by each of the three Corps Districts on the Upper Mississippi River. These teams provide field-level coordination for dredging and other navigation operations, habitat project planning, pool habitat plans, monitoring efforts, recreation planning, water level management (pool drawdowns), forestry, and education and outreach programs. Teams include the River Resources Forum (St. Paul District, Pools 1-10), River Resources Coordination Team (Rock Island District, Pools 11-22), and the River Action Team (St. Louis District, Pools 24 to open river). The Refuge is active on the St. Paul and Rock Island district teams, and their various subteams and workgroups.

1.4.3.2 The States

The Refuge has always enjoyed a unique relationship with the four states of Minnesota, Wisconsin, Iowa, and Illinois. As noted earlier, the Act which created the Refuge in 1924 had a specific stipulation which said:

> "No such area shall be acquired … until the legislature of each State in which is situated any part of the areas to be acquired under this Act has consented to the acquisition of such part by the United States for the purposes of this Act …"

Consent from the state legislatures was granted in 1925, and each state had varying conditions for their consent. In Minnesota, the legislature granted consent March 19 without condition and ceded all state-owned overflow lands to the United States. The ceded lands provision was later rescinded in 1943.

Iowa gave their consent March 31 provided that acquisitions were first approved by various state conservation boards and officials. An additional condition by Iowa granted the United States exclusive jurisdiction over the lands acquired, a condition that would later be reduced in scope to just "jurisdiction" in 1943.

Wisconsin granted consent on May 19 with several conditions. First, their consent was conditioned on the other three states granting consent and that acquisition of tracts be approved by the Governor on the advice of the Conservation Commission. Secondly, the state and its agents reserved the rights of access for fish-related conservation work such as fish rescue in backwaters and operation of hatcheries. Third, Wisconsin retained title to, and custody and protection of, the fishery in the river and adjacent waters. And lastly, their approval was on the condition that "the navigable waters leading into the Mississippi and the carrying places between the same, and the navigable lakes, sloughs and ponds within or adjoining such areas, shall remain common highways for navigation and portaging, and the use thereof, as well to the inhabitants of this state as to the citizens of the United States, shall not be denied."

Illinois granted consent June 30 with the condition that the state retained concurrent jurisdiction over the areas acquired.

Due to often overlapping and shared responsibilities and authorities for fish and wildlife resources between the states and the Refuge, cooperation and coordination have been standard practice since the Refuge was established. The Refuge generally adopts or defers to state regulations and license requirements for the use and enjoyment of fish and wildlife resources. Refuge law enforcement efforts are coordinated with respective state conservation officers. The states are also closely involved in the efforts outlined in the preceding Corps of Engineers section, and often provide the lead for interjurisdictional issues such as pool drawdowns. The Refuge Improvement Act of 1997 also solidified the role of the states in coordinating Refuge management plans and activities.

The states also manage some important and often magnificent wildlife management areas, parks, and forests adjacent to the Refuge, both in and outside the floodplain. Coordination of similar land management needs and programs is regular and ongoing since fish and wildlife, and at times the public, do not distinguish between administrative boundaries. Notable state resource lands are summarized in Chapter 3, Section 3.2.3.

Structured coordination with the states is provided through the Upper Mississippi River Basin Association and the Upper Mississippi Conservation Committee. Both are key coordination and communication links with the states for conservation efforts on the Mississippi and the Refuge.

The Basin Association was formed by a joint resolution of the Governors of Missouri, Illinois, Wisconsin, Iowa, and Illinois in 1981 to replace the former federally-authorized Upper Mississippi River Basin Commission. Several federal agencies, including the Service, are non-voting advisory members, but never-the-less, the Basin Association provides an important regional forum to discuss major policy and management issues that affect the Mississippi River and the Refuge.

The Conservation Committee is also a state-sponsored organization with executive board delegates from Minnesota, Wisconsin, Iowa, Illinois, and Missouri. However, its membership since establishment in 1943 has grown to more than 200 resource managers from both state and federal agencies. The manager of the Refuge is a recognized, but non-voting, participant at board meetings, and the Service's Rock Island Field Office provides a coordinator.

1.4.3.3 Other Conservation Initiatives

The Refuge's location in the floodplain of the Mississippi River makes it an important component of a host of conservation initiatives, plans, and reports. Several of these efforts are outlined below and contain important guidance and direction for preparation of this Draft CCP and EIS.

Ecosystem Approach

The Service has adopted an ecosystem approach to conservation which stresses a landscape perspective and cooperation across Service programs and with the wide variety of partners and stakeholders. The Refuge is part of the Service's Upper Mississippi River and Tallgrass Prairie Ecosystem and strives to contribute to these five team goals:

- Protect, restore, and enhance populations of native and trust species and their habitats.
- Restore natural ecosystem processes, including hydrology and sediment transport to maintain species and habitat diversity.
- Promote environmental awareness of the ecosystem and its needs with emphasis on sustainable land use management.
- Identify water quality problems affecting native biodiversity and habitat of trust species.
- Reduce conflicts between fish and wildlife needs and other uses.

Migratory Bird Conservation Initiatives

Blueprint for Migratory Birds (USFWS, 2004)*:* The U.S. Fish and Wildlife Service is responsible for the conservation and management of more than 800 species of migratory birds that occur in the country. In 2004, the Service released the Migratory Bird Program's ten-year strategic plan entitled: "A Blueprint for the Future of Migratory Birds." It calls for cooperation from all governments and partners to ensure the continued survival of migratory birds. The Blueprint identifies three priorities for the Migratory Bird Program: 1) address the loss and degradation of migratory bird habitat; 2) improve scientific information on bird populations; and 3) increase partnerships to achieve bird conservation. Refuge management activities stemming from the CCP will complement these priorities by addressing needs of some Birds of Management Concern listed in the Blueprint.

North American Waterfowl Management Plan (USDOI and EC, 1986): This plan is a partnership effort to restore waterfowl populations to historic levels through habitat conservation. The plan outlines several geographic areas, called joint venture areas. The Refuge is a part of the Upper Mississippi River and Great Lakes Region Joint Venture. The goal of the joint venture is to increase populations of waterfowl and other wetland wildlife by protecting, restoring, and enhancing wetland and associated upland habitat. Objectives for the joint venture are 1.54 million breeding ducks and 773 million use-days during migration.

Partners in Flight (Pashley et al. 2000): This initiative seeks to conserve songbirds by identifying priority species, important habitats, and management strategies. Conservation plans have been developed for different regions across the continent and the Refuge lies within the Upper Great Lakes Plain, also known as Physiographic Area 16.

U.S. Shorebird Conservation Plan. (Manomet, 2001)*:* This plan seeks to conserve shorebirds by identifying priority species and important breeding and migration areas, and outlining strategies. The Refuge is included in the Upper Mississippi Valley/Great Lakes Regional Shorebird Conservation Plan.

North American Waterbird Conservation Plan: Volume One of this plan focuses on 165 species of seabirds and colonial nesting birds such as herons, egrets, and terns. Volume Two focuses on 44 species of non-colonial marsh birds. The plan outlines species' population status, habitat needs, and strategies for conservation.

North American Bird Conservation Initiative (http://www.bsc-eoc.org/nabci.html): This initiative is a continental effort to bring all migratory bird conservation programs together to optimize conservation objectives and strategies. The goal is to facilitate the full spectrum of bird conservation through regionally-based, biologically-driven, landscape-oriented partnerships.

Globally Important Bird Area (American Bird Conservancy, 2004): The Refuge was designated a "Globally Important Bird Area" by the American Bird Conservancy in 1997 due to its national and international importance for migratory birds. The designation helps protect the Refuge through recognition and awareness.

Regional Resource Priorities

In 2002, Region 3 of the Service assembled a list of 243 species in the greatest need of attention under the Service's full span of authorities. The priorities are linked to key habitats, concerns, desired outcomes, obstacles, and broad strategies. The priorities help direct human and fiscal resources and are a useful reference and guide when preparing CCPs.

Partners for Fish and Wildlife Program

Since 1987, the Service has worked beyond the boundaries of refuges with landowners and other partners to improve habitat on private land for fish and wildlife. The program is voluntary, relies heavily on a partnership approach, and leverages both ideas and funding from a variety of sources. Through the Partners program, the Service in Region 3 has restored or enhanced 24,780 wetland basins, nearly 189,000 acres of uplands, and nearly 200 miles of streams and riparian areas. Cost sharing agreements and technical assistance are an important part of the program. The Partners program remains an effective tool in influencing land use off-refuge to improve water quality and quantity on-refuge, as well as meeting the landscape needs of fish and wildlife.

Interagency Reports and Assessments

Over the years, there have been scores of reports, studies, assessments, and action plans done by federal and state agencies, commissions, and workgroups, either singly or as cooperative efforts. Below is a summary of recent works which have been important guides for the preparation of this Draft CCP and EIS. Many are referenced in various sections of this document, and many other important works are listed in the references section, Chapter 8.

Ecological Status and Trends of the Upper Mississippi River System 1998(USGS, 1999): This report of the Long Term Resource Monitoring Program examines and summarizes data collected in the monitoring program since the late-1980s, provides historical observations, and other scientific findings. The report, along with unpublished updates since 1998, provides invaluable science in the areas of river geomorphology and floodplain habitats, watershed relations and changes, hydrology,

water and sediment quality, submersed aquatic vegetation, floodplain forest, macroinvertebrates, freshwater mussels, fishes, and birds.

A River That Works and a Working River (UMRCC, 2000): Completed by the Upper Mississippi River Conservation Committee in 2000, the report presents a strategy for the natural resources of the Upper Mississippi River System. The report lists 9 objective areas and discusses tools and measures, or strategies, for achieving. The 9 objective areas are:

- Improve water quality
- Reduction in erosion, sediment and nutrient impacts
- Return of natural floodplain to enable more habitat diversity
- Seasonal flood pulse and periodic low flow conditions
- Restore backwater/main channel connectivity
- Management of sediment transport, deposition and side channels
- Manage dredging and channel maintenance
- Sever pathways for exotic species
- Provide opportunities for native fish passage at the dams

Habitat Needs Assessment (USACE, 2000): This assessment was prepared by the Corps of Engineers in 2000 under the Environmental Management Program in cooperation with the states and federal agencies involved in Upper Mississippi River management. The assessment provides a system-wide analysis of historical and existing habitat conditions, and desired future habitat conditions. It is an important guide to ongoing and future habitat restoration projects.

Environmental Pool Plans (River Resources Forum, 2004)*:* Completed by the interagency Fish and Wildlife Workgroup for Pools 1-10 in 2004, and underway by the River Resources Coordinating Team for Pools 11-22, the Environmental Pool Plans provide a detailed desired future condition of each pool in a 50-year planning framework. These plans have been adopted as the desired future habitat conditions for the Refuge in the Draft CCP and EIS (see Appendix O for an example of Environmental Pool Plans) .

Upper Mississippi and Illinois River Floodplain Forests (UMRCC 2002)*:* This report was issued in 2002 by the Upper Mississippi River Conservation Committee, Wildlife Technical Section. It provides a historic context, current status and future outlook for the expansive floodplain forest of the Upper Mississippi River System, and recommended actions to sustain and improve the forest habitat on the river and the Refuge.

Conservation Plan for Freshwater Mussels of the Upper Mississippi River System UMRCC, 2004b)*:* This report was released in 2004 by the Upper Mississippi River Conservation Committee, Mussel Ad Hoc Subcommittee. The plan outlines the history of harvest, biology, status, concerns, and numerous strategies for the conservation, including restoration, of the freshwater mussels in the Mississippi and other rivers.

1.4.4 Refuge Vision and Goals

The vision for the Refuge provides a simple statement of the desired, overall future condition of the Refuge. From the vision flow more specific goals which in turn provide the framework to craft more detailed and measurable objectives which are the heart of the CCP. The vision and goals are also important in developing alternatives, and are important reference points for keeping objectives and strategies meaningful, focused, and attainable.

1.4.4.1 Refuge Vision

The Upper Mississippi River National Wildlife and Fish Refuge is beautiful, healthy, and supports abundant and diverse native fish, wildlife, and plants for the enjoyment and thoughtful use of current and future generations.

1.4.4.2 Refuge Goals

Landscape	We will strive to maintain and improve the scenic qualities and wild character of the Upper Mississippi River Refuge.
Environmental Health	We will strive to improve the environmental health of the Refuge by working with others.
Wildlife and Habitat	Our habitat management will support diverse and abundant native fish, wildlife, and plants.
Wildlife-Dependent Public Use	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.
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.
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.

White-tailed deer buck.
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1.4.5 Planning Issues, Concerns and Opportunities

Issues, which are often synonymous with concerns and opportunities, were identified through the scoping and public involvement process described in Chapter 6. The issues below represent input from the public, other agencies and organizations, and Refuge managers and staff, as well as the mandates and guidance reflected in earlier sections of this chapter. This Draft CCP and EIS is issue-driven, and as such, each issue is defined and discussed below. More details pertaining to each issue can be gleaned from Chapter 3, Affected Environment.

The issues were critical in framing the objectives and strategies for the various alternatives, and form the basis for evaluating the environmental consequences of each alternative. Care has been taken to ensure these issues track through the document, recognizing that required formats and contents for CCPs and EISs do not always present a perfect crosswalk to and from issues.

Also, these issues do not represent every issue which faces the Refuge and the Upper Mississippi River as a whole, as issues had to be pared to a reasonable level in terms of planning horizon, implementation practicalities, and jurisdictional realities. However, they do represent a reasonable

and comprehensive set of issues, which, when converted to measurable objectives in Chapter 2, Alternatives, create a meaningful plan of action to help meet the mission of the Refuge System and the purposes and goals of the Refuge.

1.4.5.1 Landscape Issues

Refuge Boundary: In many areas of the Refuge, a visitor can locate the Refuge boundary by recognizing where the natural vegetation of the floodplain stops and human development begins. This presence of the Refuge in the floodplain has played a crucial role in protecting the natural and wild character of the river for 80 years. However, there is constant pressure to the integrity of the Refuge from development that encroaches upon Refuge land via tree cutting, dumping, construction, and mowing along the Refuge boundary. Maintaining an accurate and clearly marked Refuge boundary is a critical basic need of resource protection.

Land Acquisition: Acquisition of land remains a key conservation tool for the well being of fish and wildlife resources, for providing public use opportunities, and for maintaining the wild and scenic character of the Refuge and the Upper Mississippi River as a whole. It is also cost effective to acquire key lands before they are developed, both from a land-cost perspective and from the cost of dealing with negative impacts associated with development adjacent to a national wildlife refuge.

The 1987 Refuge Master Plan identified approximately 36,000 acres of additional lands to be acquired to meet various resource needs. Goal acres by state were: Minnesota – 6,770 acres; Wisconsin – 9,130 acres; Iowa – 7,000 acres; and Illinois – 13,100 acres. Many of these areas are gaps in floodplain habitat between what the Service originally acquired through 1934, and what the Corps acquired for the navigation project. Approximately 6,800 acres have been acquired since 1987, or 19 percent of the Refuge Master Plan objective. In addition to Master Plan goals, the Service has previously approved acquisition of approximately 900 acres in the Halfway Creek area of the La Crosse District as part of a water quality and sediment control partnership. To date, about 146 acres have been acquired in this area. A previous proposal to acquire approximately 5,800 acres in the lower Root River floodplain, La Crosse District, is not being carried forward at this time, mainly because the Minnesota Department of Natural Resources has been actively pursuing acquisition in this area. Collectively, there are 25,923 acres remaining to be acquired within the approved boundary of the Refuge (see maps, Appendix G).

In September 2003, the Service and the Department of the Army signed an agreement to add 9,404 acres of the former Savanna Army Depot to the Refuge. An amendment to the agreement in August 2004 added another 311 acres, for a total of 9,715 acres. Approximately 3,000 acres of this total was transferred outright with the September 2003 agreement, with the remaining 6,715 acres to be managed as part of the Refuge and transferred as clean-up is completed. This sizeable addition is known as the Lost Mound Unit of the Refuge. In October 2004 another 143 acres (Apple River Island) was added to the Lost Mound Unit by including it in the Cooperative Agreement between the Corps and the Service, for a total of 9,858 acres.

There are also a few Refuge tracts intermingled with state wildlife management areas. It would benefit both the Refuge and the states to consolidate ownerships through land exchanges. Examples include tracts within the Whitman Dam Wildlife Management Area (Pool 5) and Van Loon Wildlife Management Area (Pool 7), Wisconsin. Consolidation would provide consistent management and regulations and reduce confusion by visitors to these areas.

Bluffland Protection: The stunning bluffs which frame the 261-mile long Refuge are a key component of its scenic and wild character, and critical to the entire viewshed of the river valley. Most of the bluffs are in private ownership, while some are protected by state and local parks, forests, and wildlife management areas. The 1987 Master Plan identified 13 bluff land areas for acquisition, primarily to protect potential nesting sites for the peregrine falcon, an endangered

species at that time. These areas contain bluffs, rock outcrops, dry "goat" prairies, and other relatively inaccessible features that contribute to the wild and scenic qualities of the river corridor, and harbor a stunning plant and wildlife diversity. However, bluff areas are increasingly being developed for private residences or other uses which threaten these values.

Natural Areas and Special Designations: The Refuge currently contains 4 federally-designated Research Natural Areas totaling 6,946 acres. Some of the biological values which led to the designation of these areas are threatened by habitat changes. Management plans are needed to ensure the future integrity of these areas and to increase public awareness and appreciation.

There is also an opportunity to add the Refuge to the list of Internationally Important Wetlands under provisions of the Ramsar Convention. The treaty resulting from the convention, ratified by the U.S., maintains a global registry in Switzerland of wetlands designated as internationally significant for migratory birds and other natural and cultural values. An attempt to get the Refuge designated fell short in the 1990s.

1.4.5.2 Environmental Health Issues

Water Quality: The Refuge Improvement Act of 1997 called upon the Secretary of the Interior to administer the Refuge System in a way that will "ensure that the biological integrity, diversity, and environmental health of the System are maintained for the benefit of present and future generations" and "assist in the maintenance of adequate water quantity and quality to fulfill the mission of the System and the purposes of each Refuge." Water quality is a key to the overall health of the food chain which drives and sustains the multitude of fish, wildlife, and plant species which rely on the Refuge for critical parts, or all, of their life cycle requirements. Although pollution from urban centers has been drastically reduced, and certain toxic chemicals such as DDT have been banned, several water quality concerns remain. These include sediment which is filling main pools, channels and backwaters; toxic substances in both the water and sediment which pose direct and indirect threats to animals and humans; and nutrient loads from land use practices or inadequate waste treatment.

Water Level Management: Completion of the current 9-foot navigation project with its series of low head dams had a tremendous ecological impact on the Upper Mississippi River, and the Refuge. This system of locks and dams (11 on the Refuge) changed the previously free flowing river to a series of shallow reservoirs from St. Louis, Missouri to Minneapolis, Minnesota.

For several decades, the newly created "pools" supported a wealth of fish, wildlife, and aquatic habitats. However, typical of dammed river systems, the initial productivity of the pools diminished significantly over time. Although water level management of the pools changed some over the years, the defining purpose for water level management was, and is, to ensure navigation pool water depths for a defined commercial navigation channel. The result is a deeper, relatively stabilized water system, especially during the summer. Over time, stable water levels have adversely affected many of the biological resources of the river, and thus the Refuge. Among the principal results have been a reduction in seasonal mudflat/sandbar areas; loss of islands; and a significant decline in aquatic plant community abundance, diversity, and distribution. Fish and wildlife dependent on these plant communities have also declined and/or moved elsewhere. Recent efforts to reverse this resource decline through pool-wide summer drawdowns show great promise, but funding levels or sources remain a limiting factor for broader application.

Invasive Plants: 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. Control of invasive plants on a predominantly floodplain environment is extremely

challenging due to difficulty of access and the rapid dispersal of plants. In addition, control has been hampered by staff and funding limits for basic inventory, direct control, and research into species-specific biological controls.

Invasive Animals: Invasive animal species can often be a biological storm which wreaks havoc on native plants and animals in a matter of years. Zebra mussels swept through the Upper Mississippi River incredibly fast, decimating many native mussel beds. A variety of Asian carp are poised to make a similar assault and are perhaps of most concern since they may compete directly with a large number of native fish species through direct food competition. In some areas where Asian carp have taken hold they represent 98 percent of the animal biomass. Direct control of invasive animal species is difficult in a large riverine system due to the mobility of the animals and the rich nutrient base which provides abundant food.

1.4.5.3 Wildlife and Habitat Issues

Environmental Pool Plans: As noted earlier in Section 1.4.3.3, Environmental Pool Plans detail the desired future habitat conditions of each navigation pool of the Mississippi River. The challenge is to mesh the purposes and goals of the Refuge with these interagency plans, and to set priorities for the 15-year planning framework in the CCP within the 50-year vision of the pool plans (see Appendix O for an example of Environmental Pool Plans) .

Guiding Principles for Habitat Projects: Virtually all habitat improvement projects undertaken on the Refuge are interagency in nature due to shared and overlapping jurisdictions, responsibilities, and interests. Guiding principles for projects on the Refuge are needed to provide consistency throughout the Refuge, help communicate to cooperating agencies and citizens our needs and standards for project design, and help ensure that Refuge System policy is reflected.

Monitoring Fish, Wildlife, and Plant Populations: One of the directives in the Refuge Improvement Act of 1997 was to monitor the status and trends of fish, wildlife, and plants on each national wildlife refuge. Although monitoring has been a part of managing the Refuge for decades, gaps remain in baseline population data for a large number of species. A Refuge Wildlife Inventory Plan was completed in 1993 but needs updating to reflect changes in habitat, the status of many species, and new policies and procedures for monitoring. In addition, management in a changing river environment must be adaptive in nature which requires ongoing monitoring and nimble investigative capability as issues arise and change. Meeting these needs have been hampered by biological staffing and funding levels.

Threatened and Endangered Species: There are currently two federally-listed threatened or endangered species (bald eagle and Higgins eye pearlymussel) and two candidate species (massasauga rattlesnake and sheepnose mussel) confirmed on the Refuge. One candidate species, the spectaclecase mussel, may occur on the Refuge but there are no recent records. Threatened and endangered species are issues due to their often precarious population status, and the need for special considerations and protection which influences Refuge use and management activities.

Furbearer Trapping: Furbearer trapping on the Refuge has a long-standing tradition and has been a useful tool in maintaining balance between furbearers and habitat, and safeguarding Refuge infrastructure. The Refuge has regulated trapping within its boundaries since 1929. The existing trapping program is regulated by issuing Special Use Permits to state-licensed individuals who may use a maximum of 40 traps (all marked with Refuge tags) per day, during the state season, except the final day of trapping on the Refuge is no later than March 15. All trappers must submit a Fur Catch Report following the season. The 1988 Trapping Plan needs to be updated to reflect recent national policy and regulation changes governing compatibility of uses, commercial uses on Refuges, the latest furbearer population and Refuge habitat information, and new management needs.

Fishery and Mussel Management: The fishery and mussel resources of the Mississippi River are an important aspect of both federal and state management efforts due to their recreational and/or commercial value. Even prior to establishment of the Refuge in 1924, federal and state governments were actively involved in fish rescue operations in isolated backwaters, returning millions of fish to the main channel during low flow periods. Agencies were also involved in mussel propagation, and eventually regulations, due to a thriving button-making industry using mussel shells. Congressional hearings on the establishment of the Refuge included abundant testimony on the value of the area to fish, and especially the black or largemouth bass due to its sportfishing value. After Refuge establishment, the Refuge and states were still heavily involved in fish rescue operations. These efforts were curtailed after the locks and dams went into operation and higher water levels reduced the entrapment of fish in backwaters.

Changes in river ecology have had a dramatic impact on fishery and mussel resources. Many fish species dependent on a free-flowing river declined with the construction of navigation improvements, while others increased under stable pool conditions. Mussels have been impacted by pollution, harvest, sedimentation, loss of free-flowing habitat, reduction in species-specific host fish, and zebra mussels. Asian carp pose an increasing threat to both fish and mussels. Of the 35 mussel species in the Service's Region 3 Conservation Priority list, 19 are found in the Upper Mississippi River ecosystem. Several species are listed as either federally listed threatened, are candidates for federal listing, or are on state threatened and endangered species lists.

Fish and other aquatic life conservation is one of the major purposes of the Refuge. It also accounts for one of the highest public use activities on the Refuge, with more than a million fishing visits per year. However, the Refuge has played a relatively minor role in fishery management, deferring to the states for most monitoring, management, and regulations. In 1981, the Service established a Fishery Resource Office in Winona, which was moved to La Crosse in 1995. Staff at this office are an important resource for addressing Refuge fishery questions and needs, as well as assisting other Refuges, tribes, military bases, and the states. But the La Crosse Fishery Office covers a large geographic area, and with multiple responsibilities, cannot limit its activities to the needs of the Refuge. The Genoa National Fish Hatchery, located along the Mississippi River and established in 1932, also provides assistance to the Refuge primarily through limited stocking of panfish and work on threatened and endangered mussels.

The Refuge should play a larger role in fishery and mussel management in keeping with its mandated purposes and the high intrinsic, recreational, and commercial values of the resource. A Fishery and Mussel Management Plan should be in place to help communicate to the states and 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 be programmatic in nature, as the states should rightly continue to be the main lead for fishery and mussel management and regulations. The Refuge is currently hampered by having no fishery biologist on staff for full time coordination of fishery and mussel monitoring and management efforts with other Service offices, the states, and the Corps of Engineers. A fishery biologist would help ensure that fishery and mussel considerations are integrated with Refuge habitat, biological, and public use decisions.

Commercial Fishing, Clamming, and Turtle Harvest: Commercial fishing on the Refuge is an important economic use for scores of people and communities along the river. Besides its economic value, commercial fishing has strong cultural and social ties for many. In 1998, 6.27 million pounds of fish of 17 species were reported caught. Carp, buffalo, drum, channel catfish, carpsucker, and redhorse and sucker make up the bulk of the catch by pound. Commercial fishing is a viable use of a renewable resource, and it can be an important tool in reducing populations of some invasive species. However, there can be some impact to non-target species such as paddlefish, sturgeon, and diving ducks, and disturbance to rafts of waterfowl in the fall from commercial fishing activities in closed areas.

Mussel harvest, or clamming, has enjoyed a colorful history on the Mississippi River, first with a thriving button industry from the late 1800s to the 1930s, and secondly, beginning in the 1950s, with harvest to provide mussel shell "seeds" for the Japanese cultured pearl industry. The states regulate the harvest of mussel and have been moving toward standardizing regulations and reporting. Mussel harvest can be a concern due to often incomplete population information, continued environmental stressors on mussels, threatened and endangered status for some species, and enforcement challenges.

New information on turtle ecology and populations has raised questions about the effects of commercial harvest, for both the food and pet trade, on turtle populations. In 1998, the states reported a commercial catch of nearly 10,000 pounds of unspecified species on the Mississippi River.

The number of commercial operators harvesting fish, mussels, and turtles on the Refuge is not known since records kept by the states do not distinguish by pool number. However, in 1998 the total number of commercial fishermen on the Refuge was 576 and their total catch had an estimated value of nearly $8.5 million.

The Refuge has provided little to no oversight of the commercial fish, mussel, and turtle harvest on the Refuge, deferring to the states' expertise and experience. However, federal regulations 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" as long as such economic use "contributes to the achievement of the national wildlife refuge purposes" and is determined to be compatible (50 CFR 31.13 and 29.1). Some Refuge oversight is thus required to ensure compliance with regulations and policy.

Turtle Management: The Refuge provides important and often critical habitat for a variety of turtle species, some of which are listed as threatened or endangered by the states. Recent surveys in the Weaver Bottoms area of Pool 5 revealed that the area harbors one of the largest and most diverse turtle assemblages in the U.S. (8 species). There are numerous potential negative and positive impacts from activities on the Refuge since turtles nest on sand areas that are also important for navigation channel maintenance and used heavily by recreationists. Marsh and backwater areas also provide important food and cover for young turtles. More rigorous monitoring and research is needed to understand turtle populations and ecology on the Refuge, and to guide a coordinated approach to population monitoring and harvest regulations.

Forest Management: The Refuge includes approximately 51,000 acres of floodplain forests, one of the largest contiguous areas of floodplain forest in the Midwest. This habitat is critical to the river ecosystem, providing habitat for a variety of wildlife including songbirds, Wood Ducks, Bald Eagles, Red-shouldered Hawks, herons, egrets, and numerous mammals and amphibians. It also provides scenic beauty, a welcome place for recreation, protects soils, and improves water quality.

The floodplain forest of the Refuge has undergone a series of changes since Refuge establishment. A more diverse forest gave way to a more monotypic forest dominated by silver maple. The current forest is even aged, growing old, and in many cases, not regenerating itself. In many areas, reed canary grass is replacing former forest areas by choking tree regeneration. If current trends continue, there could be a marked loss of forest within the Refuge and elsewhere in the river floodplain. A baseline forest inventory plan needs to be completed as a first step in developing a management plan, or prescription, for forest health. Despite the size and importance of the forest resource on the Refuge, there are currently no foresters on staff.

Grassland Management: Although mainly a river floodplain, the Refuge does contain 5,700 acres of scattered grassland habitat important to numerous species of grassland birds and other wildlife. Some of these grasslands are tallgrass native prairie, one of the rarest ecosystems in the United

States. Active management is critical to safeguard and maintain these grassland areas. Management tools include prescribed or controlled fire to setback the natural succession of shrubs and trees, and the control of invasive species.

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1.4.5.4 Wildlife-Dependent Recreation Issues

General Hunting: Hunting remains an important and popular form of wildlife-dependent recreation on the Refuge. In 2003, an estimated 285,000 visits were recorded for hunting, with waterfowl hunting accounting for 87 percent. Hunting is one of the priority public uses of the Refuge System, and remains a vital part of the cultural, social, and economic fabric of the communities along the Refuge. The Refuge Hunting Plan needs revision to reflect land acquisitions and new policies.

In recent years, six administrative "No Hunting Zones" totaling 1,073 acres were established (5 on Pool 13 and 1 on Pool 7) for public safety, to reduce potential user group conflicts, and provide opportunities for wildlife observation. In addition, approximately 2,400 acres of the recently established Lost Mound Unit remains closed to all entry because of contaminant issues. These areas need to be reviewed in light of new acquisitions, and changes in public use facilities and use levels. There are several specific issues related to hunting outlined below.

Waterfowl Hunting Closed Areas: Portions of the Refuge currently designated as closed areas are actually areas closed only to hunting, furbearer trapping and camping during the duck hunting season and to migratory bird hunting at all times. They are generally open for other uses, including recreational boating and sport and commercial fishing. The only exceptions are the Spring Lake Closed Area (Pool 13) which is a sanctuary and closed to all public entry October 1 to the end of the duck hunting season, and the Goose Island No Hunting Zone (Pool 8) which is closed to hunting at all times.

The core of the current Refuge closed area system was established in 1957-58 after nearly 10 years of coordination. The system began with 14 closed areas, including Trempealeau National Wildlife Refuge, and encompassed about 41,600 acres. Considering the dominant role of the Refuge in the Mississippi Flyway migration corridor, the closed area system was established to provide migrating waterfowl with a network of feeding and resting areas, and to disperse waterfowl hunting opportunities on the Refuge. These goals were initially met.

After nearly 45 years, changes have occurred in the closed area system, including the amount and quality of habitat available, the number and species of waterfowl using the system, and the size and number of closed areas. Fewer islands and acres of plants are generally available to provide shelter, food, and cover. More diving ducks, tundra swans, and Canada Geese are now present, but fewer puddle ducks. For example, because of habitat decline, fewer mallards are using closed areas today compared to the early years of the closed area system. In addition, some waterfowl (e.g., canvasbacks) are now concentrated in a few functioning closed areas rather than dispersed throughout the Refuge. Up to 50 percent of the continent's canvasback duck population utilizes the Refuge, however, the vast majority of these birds are found only on Pools 7-9. An environmental accident or crash in submergent vegetation or other food sources in these pools could have serious impacts to the canvasback population.

The impact of human-caused disturbance to waterfowl concentrated in closed areas is also being reviewed. The public can motor through closed areas and fish in them during the fall migration, and new shallow water boating technology makes most areas accessible. As a result, not all closed areas are fully functional, that is, they are not providing food and rest for migrating waterfowl. Human disturbance disrupts feeding activities of waterfowl and potentially could reduce the quality of

staging sites. To waterfowl, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance. One tool currently being used by the Refuge to address human-caused disturbance during fall migration is the Lake Onalaska Voluntary Waterfowl Avoidance Area (Pool 7). This program has been operational each year from October 15 through mid-November since 1986. Although the program has reduced disturbance, disturbance still occurs. It is also a costly and challenging program to administer in terms of buoy placement and maintenance, especially given the ice conditions that form late in the waterfowl season.

Besides providing sanctuary for waterfowl, the closed area system was also designed to provide better hunting opportunities to more people through the length of the Refuge. However, with habitat decline in many closed areas, birds are being concentrated in fewer and fewer areas, thus creating gaps in hunting opportunity. Hunters tend to congregate near concentrations of waterfowl. As a result, "firing lines" have developed along some sections of closed area boundaries. Firing lines have an increased incidence of waterfowl crippling loss. Also, firing lines create a climate of competition which fosters poor hunter behavior reducing the quality of the experience for many.

The need for modifying the closed area system was recognized as early as 1978, when the Upper Mississippi River Conservation Committee issued proposed changes to several of the Refuge closed areas (in Pools 4, 5A,8, 9, 10, 13, and 14). However, some of these changes would not be appropriate under today's habitat conditions.

Waterfowl Hunting Regulations: The Refuge provides outstanding public waterfowl hunting opportunities and is very popular with the public. Annual visits for waterfowl hunting are approximately 250,000. Competition for birds and hunting spots can lead to disruptive and unethical behavior among some hunters, affecting the quality of the hunt for many and having a direct impact on birds through crippling losses. There is a need to review current Refuge waterfowl hunting regulations to ensure continued hunt quality and fairness, and to minimize crippling loss.

Firing Line, Pool 7, Lake Onalaska: 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 who pass shoot as waterfowl leave closed areas. One such area is the so-called Barrel Blinds area just north of the Lake Onalaska Closed Area.

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 Barrels 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.

These behaviors are not in keeping with guidance in the Refuge Manual which 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."

Permanent Blinds on Savanna District: Permanent hunting blinds are wooden (dimensional lumber) structures built by waterfowl hunters and placed along some areas of the Refuge for a dry, stable hunting platform. The blind does not have to be removed at the end of the hunt season, thus it is considered a permanent structure.

In some Mississippi River areas, permanent blinds have been part of the waterfowl hunting tradition for many decades. In other Mississippi River areas, permanent blinds have been eliminated due to management problems associated with the permanent structures. In 2000, the northern Districts (Pools 4-11) of the Refuge eliminated permanent blinds and now only allow blinds to be made out of natural vegetation. Presently, only the Savanna District still allows permanent blinds.

The placement of wooden structures within the river eventually results in those materials being deposited in the river due to deterioration, floods, and ice or wind/wave action. These materials may become safety hazards for boaters.

Most permanent blinds sites are claimed year after year by the same group of individuals. This regulation promotes private exclusive use, which is inconsistent with Refuge objectives to allow equal opportunity for public recreation.

Permanent blinds limit hunting opportunities due to: a) the 200 yard spacing requirement, even for boat blinds - regardless if the blind is empty; b) no shoreline jump-shooting allowed; and c) the best hunting sites are taken year after year.

Due to an increase in new hunters to the Savanna District, confrontations and incidents related to permanent blinds have increased. Incidents include verbal threats, physical confrontations, assaults, blind burnings, and guns being pointed in a threatening manner.

Potter's Marsh Managed Hunt: Since 1980, the Savanna District has conducted a lottery drawing for waterfowl hunting blind sites on 1,923 acres of Potter's Marsh in Pool 13. Applicants pay a $10 non-refundable application fee, and successful applicants pay an additional $100 fee for one of the 49 blind sites. Successful applicants construct blinds for the season using materials in the guidelines provided. Over 500 persons apply for a blind permit annually. In 2002, hunter bag checks showed that hunters using Potter's Marsh blinds averaged 3.8 birds/day compared to 2.9 birds/day on other areas in Pool 13.

This hunt requires more than 400 hours of staff time, annually, to answer inquiries, accept applications, collect and process fees, conduct two drawings, inspect blinds for compliance, and post the area. The time spent on this hunt detracts from other resource projects and needs. In addition, 90 percent of the hunters selected hunt less than 10 days, which is not a very high public use return for the effort involved.

The fees collected do not cover the total expenses incurred for administering and managing the hunt due to the amount of staff time required. Additionally, under new national policy implemented in 2003, only 80 percent of fees are returned to the Refuge, compared to 100 percent returned in previous years.

The random drawing process has been manipulated to the point that it is no longer an equal opportunity program. Some hunting parties hunt from the same blind year after year and the program has evolved into private exclusive use of public lands and waters.

Blanding Landing Managed Hunt: Blanding Landing is an area within the former Savanna Army Depot that is now part of the Lost Mound Unit of the Refuge. The Illinois Department of Natural Resources conducts a managed hunt on the area with 15 hunting sites. This hunt, now on the Refuge, needs to be reviewed for consistency with other Refuge hunts and hunting issues associated with permanent blinds and administrative costs, as noted previously.

General Fishing: Fishing is an important, traditional use of the Refuge enjoyed by nearly a million visitors each year and contributes substantially to many local economies. Fishing is also one of the priority wildlife-dependent uses of the Refuge System that is to be encouraged when compatible with Refuge purposes.

Fishing on Upper Mississippi River NW&FR.
Cindy Samples, USFWS

The Refuge has made great improvements in facilities that promote fishing including the rehabilitation of numerous boat ramps and parking areas, dock facilities, and accessible fishing piers. In 2003 alone, work was started on five fishing piers. Maintaining fish habitat and fishing opportunity remains an important issue for anglers, businesses, and the general public.

Fishing Tournaments: Fishing tournaments, particularly for bass and walleye, are growing recreational, commercial, and fund-raising events on the Refuge. To date, the Refuge has deferred to the states for management and permitting of these events and has provided little to no oversight or review. Exact numbers of fishing tournaments are unknown since each state or other authority often has different permit and reporting requirements, or, may not issue permits at all.

There is growing concern about the impacts of fishing tournaments on other users of the Refuge. Large boats, high speeds, and the competition involved in tournaments disturb other anglers and small craft users, and can churn-up vegetation and sediment in backwaters, thus impacting fish and wildlife habitat. Increased wake action can accelerate shoreline erosion. There is some concern about the impacts of handling, holding, and later release of fish caught in tournaments, both on individual fish and overall populations.

Wildlife Observation and Photography: Wildlife observation and photography are becoming increasingly popular activities for visitors, and a source of economic growth for many communities. As two of the six priority public uses of the Refuge system, these uses are to be encouraged when compatible with the purposes of the Refuge. The Refuge provides outstanding wildlife viewing opportunities due to the abundance of eagles, swans, ducks, warblers, pelicans, herons and other birds people find unique and interesting. The National Scenic Byways which border the Refuge for hundreds of miles, and the relatively open access to lands and waters of the Refuge, make the Refuge one of the premier wildlife viewing and photography areas in the nation. The public and communities desire more opportunities for these uses, while managers must balance opportunities with the need to limit disturbance.

Interpretation and Environmental Education: Interpretation and environmental education are also priority public uses as outlined in the Refuge Improvement Act of 1997. Interpreting the resources and challenges of the Refuge to the general public and incorporating these topics into school curricula is a service welcomed by the general public, communities, and schools. The major issue facing the Refuge is how to meet the demand for these staff-intensive services, a demand which is expected to grow.

Commercial Fish Floats: Fish floats are private businesses which provide very popular fishing opportunities to the public for a fee. Operators pick up customers via boat and transport them to the

fishing facility (float) below a lock and dam where fishing can be excellent. The Refuge currently allows four fish floats through an annual permit and annual fee of $100. At least one fishing float has been in operation since 1937. However, administration and enforcement of fish float operations greatly exceeds the permit fees collected. There is also a history of permit noncompliance with some operations which has increased the staff time needed to oversee the use. In 2003, three of the four fish float operations were not in compliance with one or more permit requirements. Other concerns include the condition and safety of the fish floats and compliance with policies and regulations governing for-profit concessions on a national wildlife refuge.

Guiding Services: 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 increase conflict with individuals or other guides as volume and frequency increases. In addition, some guides are not in compliance with regulations designed to safeguard clients, such as Coast Guard regulations governing licensing of persons transporting the public.

1.4.5.5 Other Recreational Use Issues

Beach Use and Maintenance: There is a long history of beach use on the Upper Mississippi River as the public took advantage of beach areas created by side-channel disposal of dredged sand during navigation channel maintenance operations. The creation of new beaches and additions to existing beaches came to a virtual end following a lawsuit on dredge disposal by the State of Wisconsin and the subsequent Great River Environmental Action Team (GREAT) reports and recommendations.

There are basically three types of manmade or natural beach areas on the Refuge:

- Remnant channel maintenance islands and shore areas formed by the side-casting of dredged sand material. These are used for a variety of day uses and the majority of camping. Some sites remain relatively open while others are nearly covered with woody vegetation.
- Permanent dredged sand disposal sites traditionally used by multiple boats for day and overnight mooring, camping, and other uses. These are often called “bathtubs” when in empty or part-empty state, and designated Project Operations (9-foot navigation project) in the Land Use Allocation Plan (LUAP).
- Natural sand bars and shorelines which are scattered throughout the Refuge, both along the main river channel and in and around backwater areas, and used predominantly for day use and overnight mooring. Seasonal water levels often determine the number and size of these natural sand shorelines and their attractiveness to users.

The 1983 and 1987 Land Use Allocation Plans by the Corps and the Fish and Wildlife Service identified existing beach areas as “low density recreation.” This designation was in deference to the GREAT report on recreation even though on many areas beach use is very high density.

The 1987 Master Plan for the Upper Mississippi River NW&FR took a low-key, status quo approach to beach uses and maintenance. The objective in the Master Plan was to “provide non-wildlife traditional recreation – swimming, camping, picnicking, sunbathing,” and the level was described as “maintain at levels that can be accommodated at existing beaches and at low density recreation allocation areas established by LUAPs.” The Master Plan deferred to the beach plan process with the Corps and others for exactly how the objective and level would be met.

Over the years, beach planning through interagency teams (e.g. the Recreation Work Group of the River Resources Forum) has continued with starts and stops, and rehabilitation of some beaches completed in several pools. New beach issues have emerged. These include permanent spoil sites, which when emptied, create high density use areas with concerns for human-caused water quality

issues and visitor safety. In addition, new information on wildlife use of beach areas, especially turtles, has raised the issue of how to balance the needs of wildlife with recreation and channel maintenance activities.

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. Proper regulation and control of these uses has been relatively absent for decades, leading to unlawful and unruly behavior, increased concern for public and Refuge Officer safety, and a general decline in the refuge experience for many users. Litter and human waste are increasing, and a lack of intoxication standard has hampered law enforcement efforts, putting both individuals and others who share river traffic at risk. In addition, the Refuge does not receive specific funding for managing non-wildlife-dependent recreation, and there are no user fees to defer the costs of law enforcement, signing, planning, and access development and maintenance.

More specific problems and issues related to current beach-related uses on the Refuge include:

- Refuge regulation violations can be high: dogs running loose, intoxication, illegal drugs, firearm use, fireworks, noise, human waste, littering, interference with other users, private structures, large parties, loud boats, and habitat destruction.
- Public use of beaches requires a very high law enforcement effort and takes away from resource-related enforcement. There is concern for officer safety in large crowds, especially when alcohol use is involved.
- Wildlife disturbance and displacement can be a problem in some areas, especially as uses move to backwater areas.
- High peaks of use, both seasonally and site-specific, contribute to the above problems.
- Current use may not match intended use (e.g. areas originally designed for family or small group use have become large, party areas, or, areas originally set aside for wildlife now receive heavy public use).
- Many beach uses on the Refuge are non-wildlife-dependent uses and not allowed on most national wildlife refuges. Thus, these uses are inconsistent with the norm in the Refuge System. (Note: The Refuge Manual of 1982 (8 RM 9) included a special policy statement which acknowledged unique cases of non-wildlife-dependent uses on refuges, and cited the Upper Mississippi River National Wildlife and Fish Refuge as an example. The policy stated that Master Plans, or CCPs, should contain specifics on how these traditional non-wildlife-dependent activities will be managed. The compatibility standard still applies, however).

Disturbance in Backwater Areas: When the Refuge was established in 1924, the Mississippi River floodplain was a braided maze of backwater channels and sloughs. Much of this unique habitat disappeared when the locks and dams went into operation. However, in the upper reaches of many pools, this unique bottomland habitat remains and offers fish, wildlife, and people a refuge from the sights and sounds of a modern and mechanized world. Many backwater areas are preferred breeding and nesting areas for species sensitive to certain human disturbance. Also, these more remote areas of the Refuge are an important component of the river experience to many.

Technology in the form of jet skis, bass boats, shallow water motors such as Go-Devils™, airboats, and hovercraft has made the shallow backwaters of the Refuge accessible to more and more people, and introduced more and more noise, wildlife disturbance, and user conflict. The declining opportunity to experience the quiet and solitude of the backwaters was cited by many citizens during scoping meetings.

Slow, No-Wake Zones: On a few areas of the Refuge, boat traffic levels and size of boats is leading to erosion of island and shoreline habitat. Some areas also present a safety hazard for boaters due to level of use and blind spots in the channel. The addition of slow, no-wake zones needs to be reviewed to protect visitors and the environment.

Dog Use Policy: Unless specifically authorized, national wildlife refuges are closed to dogs, cats, livestock and other animals per federal regulations (50 CFR 26). Domestic animals can harass and kill wildlife, and at times become a direct threat to other persons engaged in recreation. Current regulations have been confusing since they prohibit unconfined domestic animals, but the term unconfined was never well-defined in the regulation, leading to various interpretations by the public and inconsistent enforcement by the Refuge.

However, there is a strong tradition of people using the waters of the Refuge for working and exercising dogs, especially retrievers. The size, configuration of lands and waters, and relative remote nature of the Refuge lends itself to considering a reasonable approach to dog use. The public desires a new regulation that will ensure public safety and minimal disturbance to wildlife, while providing the option of working with dogs, especially hunting dogs, which are often an integral part of the traditions and enjoyment of hunting.

General Public Use Regulations: The current public use regulations were last reviewed and updated in 1999. Regulations need to be reviewed to address new laws and policy and to help correct problems or circumstances unique to the Refuge and not specifically or sufficiently covered in current regulations or the regulations governing the National Wildlife Refuge System (50 CFR, subchapter C part 26). Refuge Officers, and the public, need to understand clearly what is and is not allowed on the Refuge.

1.4.5.6 Administration and Operations Issues

Administration, Operations, and Public Awareness: With nearly 240,000 acres over 261 miles and 3.7 million annual visitors, managing and administering the refuge is a huge undertaking requiring staff and funding for programs, facilities, and equipment. Plans and planning need to articulate these needs and ensure they are represented in databases and other documents which are used in budget decision-making at the national and regional level. Current staffing levels are below essential staffing standards and reflect gaps between what should be done and what can be done.

There is a lack of adequate office, maintenance, and visitor contact facilities. Office facilities at the Headquarters of the Refuge, and on some of the Districts, are woefully inadequate to meet the needs of employees and the visiting public. The Headquarters and Winona District offices are located in a quaint but ancient building with unreliable heat, plumbing problems, inadequate parking, inadequate disabled access, and no public information or interpretive facilities. The McGregor District has a tiny office with unsafe access off a major highway, and limited onsite parking. Some staff offices, files, and a makeshift conference/meeting room at McGregor are in a surplus trailer adjacent to the existing building, and a small maintenance facility is crammed on the same lot. The La Crosse District has an excellent rented office/garage, but space is limited and it is located in a dense retail business area some distance from the Refuge. Savanna District has a new office but expansion is needed for environmental education. New maintenance shops are scheduled to be built at Winona and Savanna, but others are needed at McGregor and La Crosse. Eventually, an office and shop will need to be constructed at the Lost Mound Unit, Savanna District.

The future well-being of the Refuge is tied to the public's awareness of its existence and significance. Many river visitors do not know they are on a national wildlife refuge, and the public as a whole is not aware of the ecological and social significance of the Refuge. As public lands and waters, the public desires information on opportunities their national wildlife refuge provides them, as well as the challenges to be addressed.