

Chapter 1: Introduction and Background



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Imagine a place where migrating birds flock to rest and build energy on their flights north and south. Imagine a natural setting nearly 50 square miles in size next door to 3 million people. Imagine a place discovered anew by black bears and gray wolves after a long absence. Now, imagine a place where wildlife comes first, but the need for people to interact with nature is not forgotten. Perhaps the place you have imagined is the Sherburne National Wildlife Refuge, a wild remnant at the meeting of the western prairies and the northern woods.

Sandhill Cranes nest and roost in numbers here, Bald Eagles sit on bulky nests, and tall wading birds stand poised at the edge of the water waiting for the glint of an unlucky fish. Grassland birds have a home here, beavers build their lodges, and foxes den close to their human neighbors.

The Refuge is truly a special place appreciated by many people. However, the nature of the surrounding countryside is changing as rural farms give way to suburban homes and businesses. Can wildlife and natural things be sustained as the Refuge becomes more isolated in a developed landscape? Can we manage Refuge lands to stimulate the best fish and wildlife habitat possible? What is the balance between the needs of wildlife and the increasing number of people who will discover this wild place? The comprehensive conservation planning process explores these questions with involvement by neighbors, outdoor sports enthusiasts, local communities, non-government organizations, state wildlife agencies and other federal agencies. Ultimately, this document will provide direction toward the answers.

The 30,575-acre Refuge was established in 1965 at the urging of local conservationists and sportsmen interested in restoring the wildlife values of the St. Francis River Basin, which had been altered by a series of drainage ditches and agricultural production. The land was purchased under the authority of the Migratory Bird Conservation Act of 1929 and is now part of the National Wildlife Refuge System (Figure 1 and Figure 2).

With evolving science and social priorities, the Refuge has seen many changes in management techniques and emphasis during the past 40 years. However, the greatest changes may be those happening outside its boundary. According to the 2000 Census, Sherburne County is the second most rapidly developing county in the State of Minnesota, recording a growth of 54 percent from 1990 to

Figure 1: Location of Sherburne NWR in Region 3 of the U.S. Fish & Wildlife Service

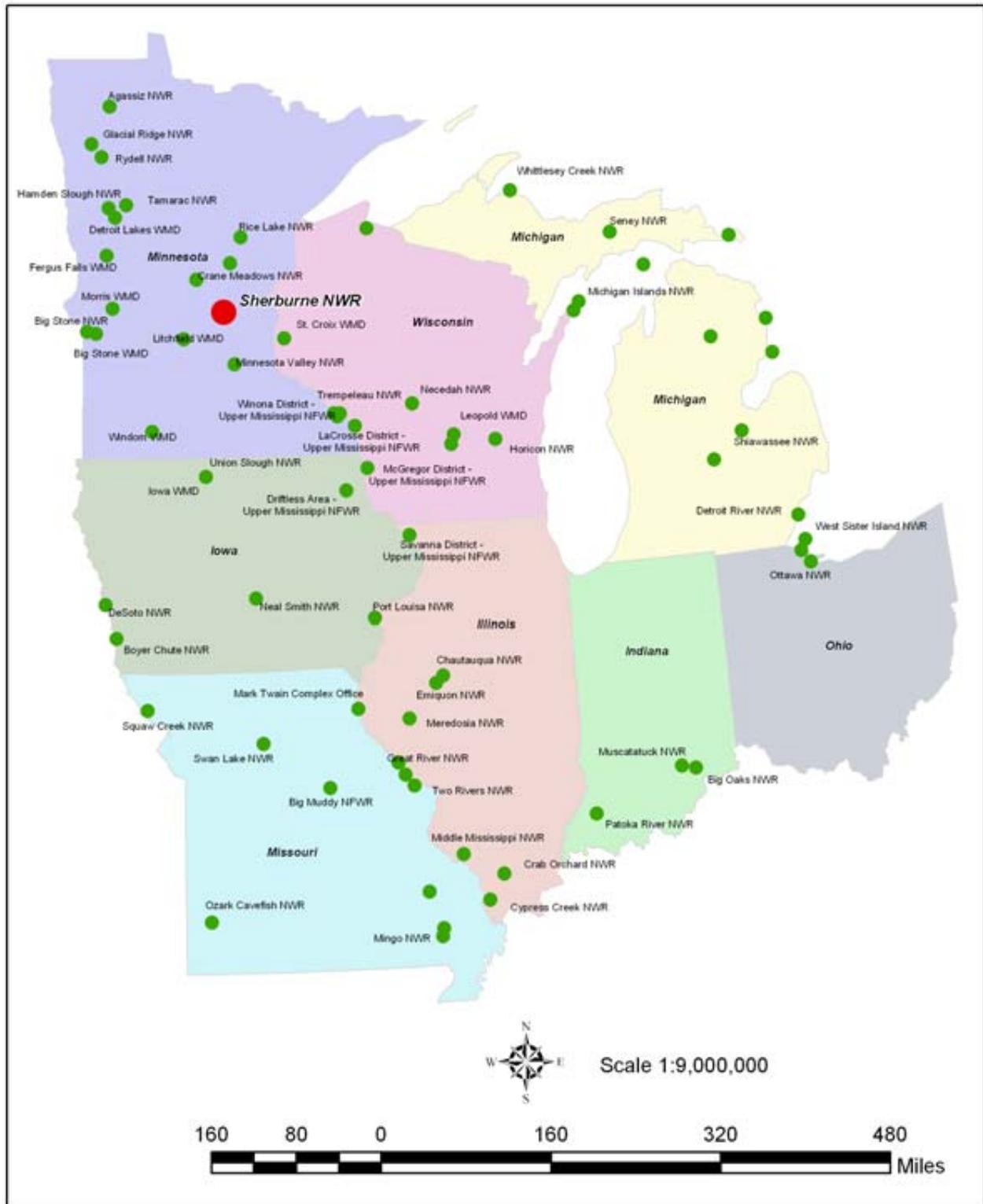
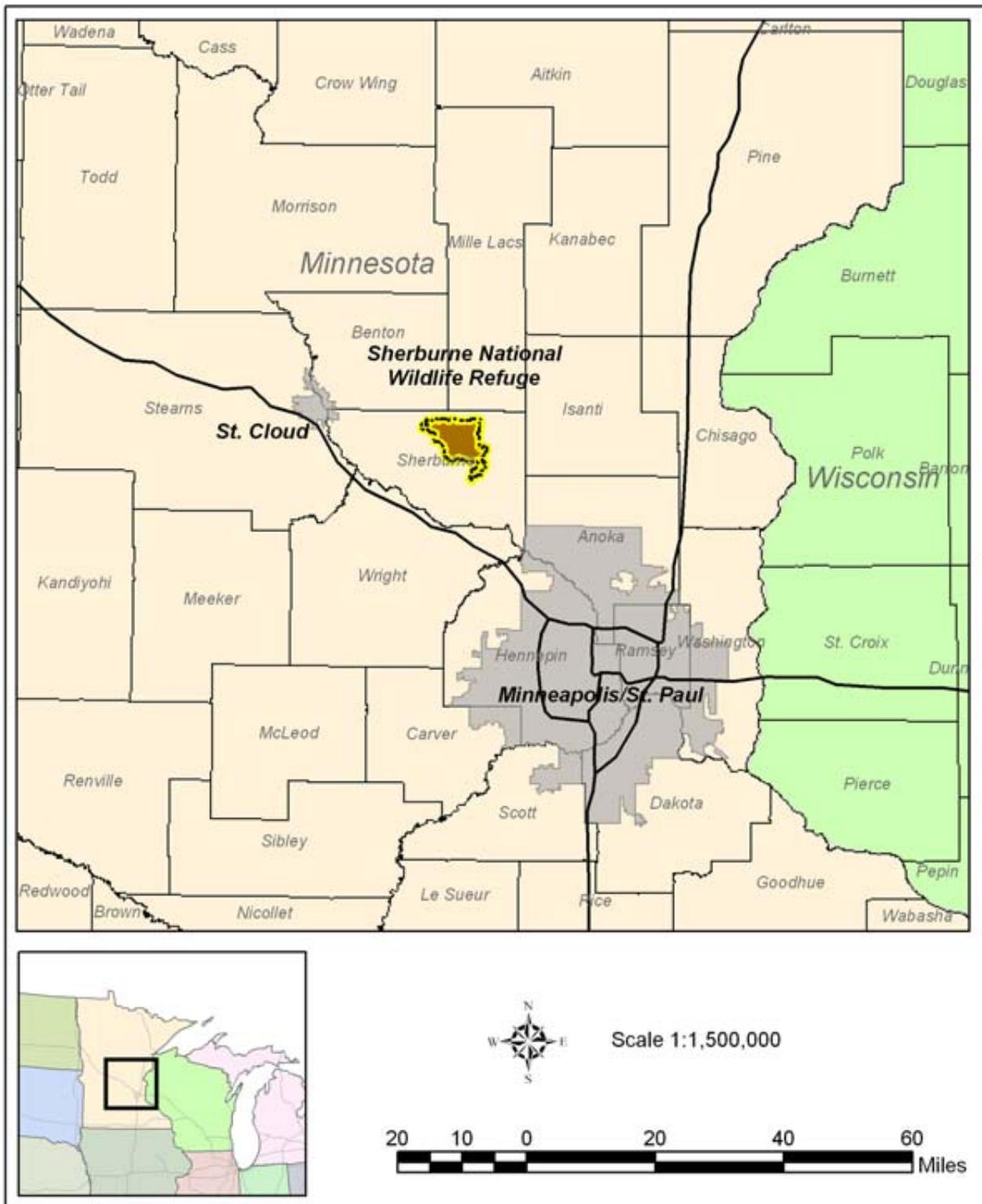


Figure 2: Location of Sherburne NWR in Minnesota



2000. It has also been included in the newly expanded nine-county metropolitan area of the Twin Cities. Rapid population growth is projected to continue in the region and will greatly influence the future of the Refuge and its programs.

Sherburne National Wildlife Refuge is the largest public land holding in Sherburne County. Most of the Refuge is located within the St. Francis River Watershed, which extends northward into Benton County. The St. Francis River begins about 18 miles from where it enters the northwest corner of the Refuge. After traveling through the Refuge, the St. Francis River drains into the Elk River, which in turn drains into the Mississippi River at the City of Elk River, Minnesota. A small portion of the Refuge lies within the Snake River Watershed, including Johnson Slough and Orrock Lake.

The U.S. Fish and Wildlife Service

The Refuge is administered by the U.S. Fish and Wildlife Service (Service), the primary federal agency responsible for conserving, protecting, and enhancing the nation's fish and wildlife populations and their habitats. The Service oversees the enforcement of federal wildlife laws, management and protection of migratory bird populations, restoration of nationally significant fisheries, administration of the Endangered Species Act, and the restoration of wildlife habitat such as wetlands. The Service also manages the National Wildlife Refuge System.

Mission of the U.S. Fish and Wildlife Service

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.

Goals of the U.S. Fish and Wildlife Service

- # *Sustainability of Fish and Wildlife Populations:* Migratory birds, endangered fish and wildlife species, interjurisdictional fish, and marine mammals are conserved, protected, enhanced, or restored. The Service is participating in conservation of other species when its expertise, facilities, or land can enhance state, tribal, or local efforts.
- # *Habitat Conservation – Network of Lands and Waters:* An ecologically diverse network of lands and waters, of various ownerships, is conserved to provide habitats for marine mammals and migratory, interjurisdictional, endangered, and other species associated with ecosystems conserved in cooperation with others.
- # *Connecting Americans to Wildlife:* The American public understands and participates in the conservation and use of fish and wildlife resources.
- # *Workforce Excellence:* The Service's workforce, scientific capability, and business practices – in cooperation with the Department of Interior's scientific expertise – fully support achievement of the Service mission.

The National Wildlife Refuge System

Refuge lands are part of the National Wildlife Refuge System, which was founded in 1903 when President Theodore Roosevelt designated Pelican Island in Florida as a sanctuary for Brown Pelicans. Today, the System is a network of more than 540 refuges covering more than 93 million acres of public lands and waters. Most of these lands (82 percent) are in Alaska, with approximately 16 million acres located in the lower 48 states and several island territories. The National Wildlife Refuge System is the world's largest collection of lands specifically managed for fish and wildlife. Overall, it provides habitat for more than 5,000 species of birds, mammals, fish, and insects. As a result of international

treaties for migratory bird conservation as well as other legislation, such as the Migratory Bird Conservation Act of 1929, many refuges have been established to conserve migratory waterfowl and their migratory flyways from their northern nesting grounds to southern wintering areas. Refuges also play a vital role in preserving endangered and threatened species. Among the most notable is Aransas National Wildlife Refuge in Texas, which provides winter habitat for the Whooping Crane. Likewise, the Florida Panther Refuge protects one of the nation's most endangered predators.



Refuges also provide unique opportunities for people. They are places where people can enjoy wildlife-dependent recreation such as hunting, fishing, wildlife observation, photography, environmental education, and environmental interpretation. Many refuges have visitor centers, wildlife trails, automobile tours, and environmental education programs. Nationwide, approximately 40 million people visited national wildlife refuges in 2004.

The National Wildlife Refuge System Improvement Act of 1997 established several important mandates aimed at making the management of national wildlife refuges more cohesive. The preparation of a comprehensive conservation plan (CCP) is one of those mandates. The legislation directs the Secretary of the Interior to ensure that the mission of the National Wildlife Refuge System and purposes of the individual refuges are carried out. It also requires the Secretary to maintain the biological integrity, diversity, and environmental health of the National Wildlife Refuge System.

Mission of the National Wildlife Refuge System

The mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Goals of the National Wildlife Refuge System

The administration, management, and growth of the System are guided by the following goals:

- # 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 their 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.

The Mississippi Headwaters/Tallgrass Prairie Ecosystem

The Refuge is located in the Mississippi Headwaters/Tallgrass Prairie Ecosystem of the U.S. Fish and Wildlife Service. This ecosystem is primarily located in Minnesota and North Dakota with small sections extending into Wisconsin and Iowa.

Historically, this portion of North America was subject to periodic glaciation and consequently, glacial meltwaters were instrumental in forming the five major river systems located or partly located within this ecosystem. These river systems are the Mississippi River, St. Croix River, Red River, Missouri River, and the Minnesota River. Likewise, glacial moraines and other deposits resulted in a myriad of lakes and wetlands that are common throughout this area. Significant variation in the topography and soils of the area attest to its dynamic glacial history.

The three major ecological communities within this ecosystem are the tallgrass prairie, the northern boreal forest, and the eastern deciduous forest. Vegetation common to the tallgrass prairie includes big bluestem, little bluestem, Indian grass, sideoats grama, and switch grass. Native prairie also supports numerous ecologically important forbs such as prairie coneflower, purple prairie clover, and blazing star. The northern boreal forest is primarily comprised of a variety of coniferous species such as jack pine, balsam fir, and spruce. Common tree species in the eastern deciduous forest include maple, basswood, red oak, white oak, and ash. Current land uses range from tourism and timber industries in the northern forests to intensive agriculture in the historic tallgrass prairie. Oak savanna and tallgrass prairie are by far the most threatened landscapes in the Midwest, with more than 99 percent having been converted for agricultural or residential purposes.



Due to its ecological and vegetative diversity, this ecosystem supports at least 121 species of neotropical migrants and other migratory birds. It provides breeding and migration habitat for significant populations of waterfowl plus a variety of other water birds. The ecosystem supports several species of candidate and federally-listed threatened and endangered species including the Bald Eagle, Piping Plover, Higgins eye pearly mussel, Karner blue butterfly, prairie bush clover, Leedy's roseroot, dwarf trout lily, and the western prairie fringed orchid. The increasingly rare paddlefish and lake sturgeon are also found in portions of this ecosystem.

Refuge Purpose

Interpretation of the migratory bird purpose of the Refuge was the first step in determining management actions in this CCP. However, development of the CCP also considered the full diversity of native species that make up and depend upon healthy ecosystems. This is in accordance with the National Wildlife Refuge System Improvement Act of 1997 and the Service Policy on Maintaining the Biological Integrity, Diversity, and Environmental Health of the National Wildlife Refuge System; Notice (Federal Register 66 (10): 3810-3823).

Sherburne National Wildlife Refuge was established in 1965 under the general authority of the Migratory Bird Conservation Act of 1929 (16 U.S.C. 715d). That Act states that lands may be acquired "... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds." The term "inviolate sanctuary", as interpreted by the Service, means that the Refuge will be managed to

promote the health and well-being of migratory birds and their habitats. Other activities may also be accommodated, provided they are compatible with the Refuge purpose (as per Service Compatibility Policy, Federal Register 65 (202): 62484-62496).

It appears the intention of the Migratory Bird Conservation Commission in establishing the Refuge was primarily to provide habitat for migratory waterfowl. Considering the wording of the establishing legislation, along with recent policy and legislation, the Refuge purpose is interpreted to include all migratory birds as identified in the Code of Federal Regulations (50 CFR 10.13).

Refuge Vision

The following vision statement was developed early in the CCP process. The vision paints a picture of how Sherburne NWR could look in the future:

In a region where citizens treasure natural areas managed by national, state, and local governments, the Refuge is celebrated for its wildlife and the extraordinary opportunities it provides for visitors. The Refuge conserves a diverse mosaic of restored, quality, native Anoka Sandplain communities and protected cultural resources. The upland habitats are dynamic, ranging from grasslands to oak savanna to forest. These are interspersed with a variety of wetland and riverine habitats ranging from sedge meadow to deep water marsh. The Refuge's hydrologic regime includes a functional St. Francis River riparian system, with clean water flowing into and out of the Refuge. Wildlife and habitat are in balance, and management reflects an adaptive response to climatic change and other changing conditions, using pre-European settlement vegetation as a guide.

Visitors have quality experiences that provide personal and societal benefits, including heightened awareness and support of a strong conservation ethic. Refuge staff, visitors, and the community understand and value the cultural history of the area. Visitor use and management activities are consistent with the maintenance of sustainable populations of wildlife and their associated habitats. The Refuge is part of the community and the community claims ownership of, actively supports, and advocates for the Refuge mission, purpose, and programs. The surrounding lands are recognized as valuable to the integrity of the Refuge by providing green corridors and habitat continuity to adjacent natural areas.

Purpose and Need for Plan

This CCP articulates the management direction for the Refuge for the next 15 years. Through the development of goals, objectives, and strategies, this CCP describes how the Refuge also contributes to the overall mission of the National Wildlife Refuge System. Legislative and other policies, including the National Wildlife Refuge System Improvement Act of 1997, have guided the development of this plan. These mandates include:

- # Wildlife has first priority in the management of refuges.
- # Wildlife-dependent recreation activities, namely hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation are priority public uses of refuges. We will facilitate these activities when they do not interfere with our ability to fulfill the Refuge's purpose or the mission of the Refuge System.
- # Other uses of the Refuge will only be allowed when determined appropriate and compatible with Refuge purposes and mission of the Refuge System.

The plan will guide the management of Sherburne National Wildlife Refuge by:

- # Addressing Refuge critical needs.
- # Providing a clear statement of direction for the future management of the Refuge.
- # Making a strong connection between Refuge activities and off-Refuge activities.
- # Providing Refuge neighbors, users, and the general public with an understanding of the Service's management actions on and around the Refuge.
- # Ensuring that Refuge management actions and programs are consistent with the mandates of the National Wildlife Refuge System.
- # Ensuring that Refuge management considers federal, state, and county plans.
- # Establishing long-term continuity in Refuge management.
- # Providing a basis for the development of budget requests on the Refuge's operational, maintenance, and capital improvement needs.

History and Establishment

Native Americans have lived in the area of Sherburne National Wildlife Refuge for over 10,000 years and American Indian village sites discovered on the Refuge date back to 1300 A.D. Tremendous numbers of ducks, muskrats, beaver and mink were supported on small lakes, and marshes near the river which were abundant with wild rice and other wetland plants. The surrounding upland was primarily oak savanna, which provided habitat for elk, bison, and wolves.

The St. Francis River Valley was settled by people of European descent in the 1870s under the Homestead Act. In the early 1900s, when lakes and marshes were still in prime condition throughout Minnesota, the St. Francis River basin was regarded as one of the finest wildlife areas in the state. This condition prevailed until the late 1930s. There was an abundance of wild rice in the area, which the old timers associated with abundant wildlife. The last rice harvest by the Native Americans in the area was made in the 1930s.

The early European immigrants attempted to farm the sandy uplands by cutting oak savanna and draining the marshy bottoms. A ditch system was built to increase agricultural land and at first it was successful, but the drought years in the early 1930s were particularly hard on these early farms. Many pine plantations were started to hold the dry, sandy upland soils and create barriers to the wind.

The river was also impacted in the early 1940s when carp invaded the lakes and streams through open ditches. Submerged vegetation important to aquatic wildlife was uprooted and destroyed by the new invaders. In addition, as the years past, partially drained wetlands became overgrown with brush and the remaining native oak savanna, once maintained by regular burning, transformed to dense woodlands.

Soon after World War II, local conservationists and sportsmen became interested in the possibility of restoring the former wildlife values of the St. Francis River Basin. The Minnesota Conservation Department (now the Department of Natural Resources) conducted studies with the intention of managing the area as a state wildlife area. By the early 1960s it had become apparent that the magnitude of the project was beyond the funding capabilities of the Minnesota Conservation Department, as over 300 individual land holdings, comprising over 30,000 acres, would need to be purchased. Therefore, the State of Minnesota formally requested the U.S. Bureau of Sport Fisheries and Wildlife, now known as the U.S. Fish and Wildlife Service, to consider the area for a national wildlife refuge.

The Bureau took on the task and began seeking approval for the Refuge from various local, state and federal authorities. The intention of the Migratory Bird Conservation Commission in establishing the Refuge was primarily to provide habitat for migratory waterfowl. The early documentation justifying the Refuge reads:

“Restoration of these drained wetlands will provide a waterfowl production, feeding, and resting area equal to any in the Lake States region. Annual production should exceed an estimated 10,000 birds, the majority being mallards, wood-ducks, and blue-winged teal. Redheads, ring-necked ducks, and Canada geese can also be well represented under proper management. The peak fall concentration is estimated at 100,000 ducks and coots and 30,000 Canada Geese.”



Jim Mattsson

Final approval of the Refuge was received from Migratory Bird Conservation Commission on May 18, 1965, and land was purchased with Federal Migratory Bird Hunting Stamp (Duck Stamp) funds.

Legal Context

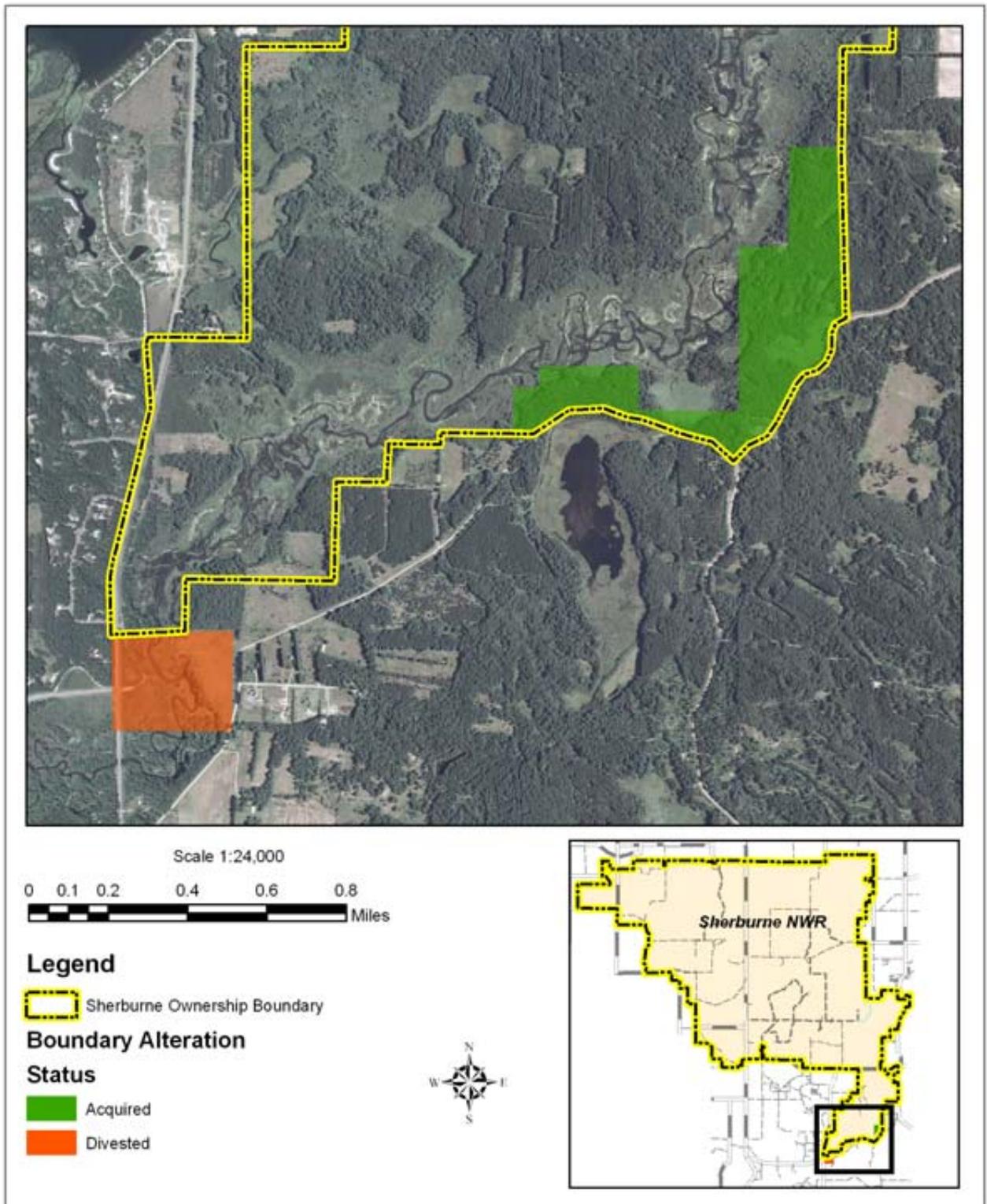
In addition to the Refuge's establishing legislation and the National Wildlife Refuge System Improvement Act of 1997, several Federal laws, executive orders, and regulations govern administration of the Refuge. Appendix E contains a partial list of the legal mandates that guided the preparation of this plan and those that pertain to Refuge management activities.

Refuge Boundary

Since its establishment, there have been many minor changes to the Refuge boundaries as roads have been rerouted and management concerns realized. One of the largest boundary changes occurred after this CCP process was under way and impacts the maps within this document. It was a land exchange initiated by the Minnesota Department of Natural Resources based on safety concerns for recreational users of the South Sand Dunes State Forest. This exchange was completed in 2002 on the area adjacent to the Sand Dunes State Forest, south of Sherburne County Road 4. The exchange was undertaken on an equal dollar value basis. Based on the market value of the lands, one parcel of Service-owned land (about 44 acres) on Sherburne NWR was exchanged for two parcels owned by the State of Minnesota totalling about 114 acres. The benefits of this exchange included expanding the native vegetation and quality wildlife habitat acreage on the Refuge, a larger upland buffer to the river corridor in this area, more manageable Refuge and state forest boundaries, and improved safety for state recreational trail users.

The original GIS work performed in preparation for the CCP mapping current and historic conditions, such as soils, vegetation covertypes, management changes and management units was done before the exchange was proposed. In addition, the exchange boundaries were changing throughout the CCP process. It was based on this knowledge that we decided to use the boundary in existence when the CCP began to show current and historic conditions and to analyze and compare proposed alternatives for management of the Refuge over the next 15 years. To recreate this analysis

Figure 3: New Refuge Boundaries Resulting From a Land Exchange (2003), Sherburne NWR



based on the new boundary would not show significant differences. A comparison of the new and old boundaries is shown here (Figure 3). However, the majority of the maps within this document will show the old boundary.

1837 Treaty

In 1837, before Minnesota was a state, the United States signed a treaty with the Chippewa Indians including the Mille Lacs Band of Ojibwe and several other tribes. The tribes that signed this treaty sold, or ceded, land to the United States government on the condition that they would still have the right to hunt, fish and gather in the ceded territory. Today, Mille Lacs Band members and members of the other tribes that signed the treaty can still exercise their treaty rights to hunt, fish and gather on public lands within the ceded territories under tribal regulations. Treaty rights are exercised on the ceded portion of the Refuge during established seasons, following State and Refuge specific regulations.

The 1837 ceded territory boundary crosses through a portion of the Refuge on a trajectory designated by the Treaty of 1837 (Figure 4).

Figure 4: Portion of Sherburne NWR Within the Treaty of 1837 Ceded Lands

