

# Chapter 1: Introduction and Background

## Introduction

Established in 1992 to conserve and protect the diminishing number of high quality wetlands that remain on the American landscape, Crane Meadows National Wildlife Refuge (NWR) is not only the location of one of the most intact wetland complexes in the state; it also protects and maintains important wildlife, recreation, and archaeological resources.

This Comprehensive Conservation Plan (CCP) establishes a blueprint for how the U.S. Fish and Wildlife Service will manage Crane Meadows NWR over the next 15 years. By establishing goals for Refuge management and identifying objectives and strategies for achieving those goals, the Refuge's neighbors, the Minnesota Department of Natural Resources, Friends of Crane Meadows NWR, and others with an interest in the Refuge's future will have a clear picture of how the Service proposes to manage the Refuge and a rationale for that management.

Located in central Minnesota (see Figure 1 on page 2), Crane Meadows NWR falls in a transition zone between the northern forests and the mid-continental prairies and is situated on the Anoka Sand Plain only 5 miles from the Mississippi River. The critical and diverse wetland habitats characteristic of the Upper-Midwest provide important habitat for local and migratory wildlife, maintain essential ecological services, provide an element of water control and flood relief, and offer unique recreation, education, and research opportunities.

Presently, the Service has acquired just over 1,800 acres of the approved 13,540-acre acquisition area. Approximately 900 acres are owned and managed by the state, and the remaining land is privately owned (see Figure 2 on page 3). The resulting landscape is a mosaic of land ownership and land-use types surrounded predominantly by agriculture.

The Refuge is home to many native species and serves as a nesting ground and stopover location for several notable migratory bird species including the



*Horned Grebes. Photo credit: Beau Liddell*

Greater Sandhill Crane. The Refuge also contains relatively rare habitat types including oak savanna, sand prairie and sedge meadows.

The first chapter of this plan presents the organizational, legal, and policy context of the U.S. Fish and Wildlife Service and the National Wildlife Refuge System. Also included in Chapter 1 is the establishment of the Refuge, its history, purpose, and vision. Chapter 2 outlines the process used to write this plan, and describes the major issues pertaining to management at Crane Meadows. Chapter 3 describes the Refuge in detail, including the current management program. In Chapter 4, the future management of the Refuge as defined in the preferred alternative of the Environmental Assessment is described. This chapter also describes the goals, objectives, and strategies chosen for implementation. Chapter 5 describes how the goals and objectives of the plan will be accomplished in terms of projects, staff, partnerships, and further planning needs. The appendices present detailed information not included in the narrative portion of the plan, including planning term definitions, all cited references, compliance requirements, refuge appropriate use and compatibility determinations, and lists of species, stakeholders, and projects.

**Figure 1: Location of Crane Meadows NWR**

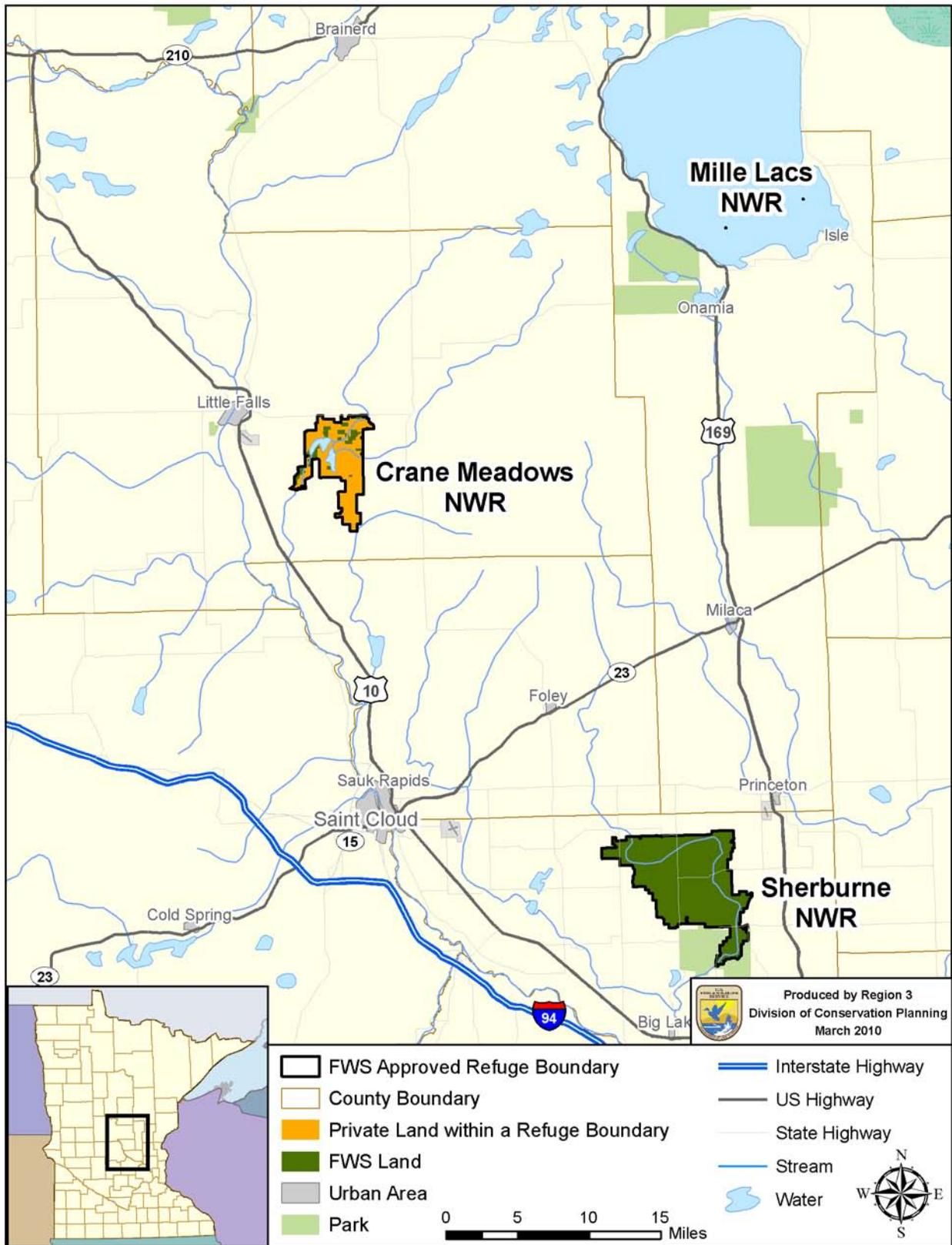
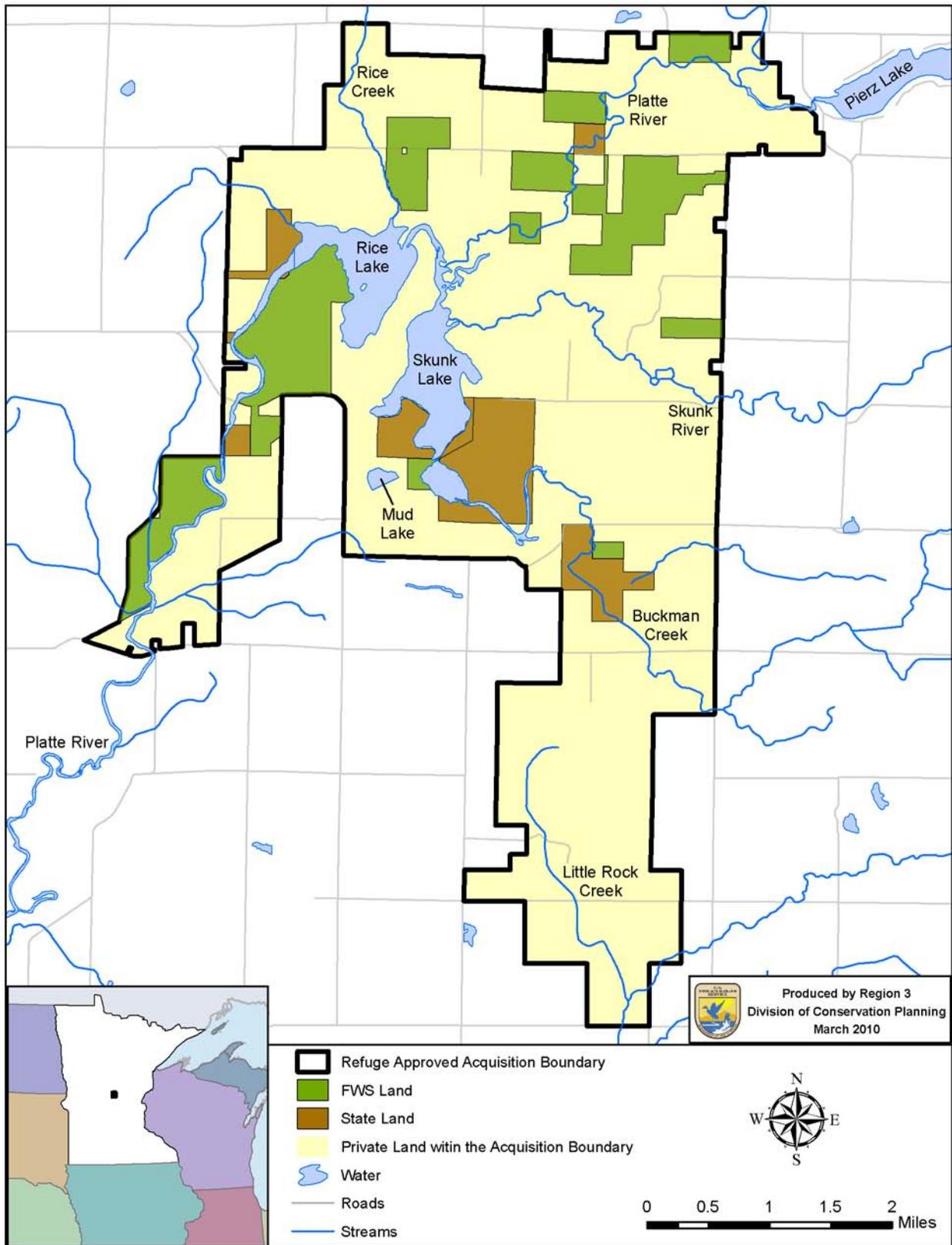


Figure 2: Land Ownership, Crane Meadows NWR



## The U.S. Fish and Wildlife Service

Crane Meadows NWR is administered by the U.S. Fish and Wildlife Service, the primary federal agency responsible for conserving, protecting, 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, restoration of wildlife habitat such as wetlands, collaboration with international conservation efforts, and the distribution of conservation funding to states, territories, and tribes. Through its conservation work, the Service also provides a healthy environment in which Americans can engage in outdoor activities. Additionally, as one of three land managing agencies in the Department of the Interior, the U.S. Fish and Wildlife Service is responsible for the Nation's National Wildlife Refuge System (NWRS).

### 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.

## The National Wildlife Refuge System

The National Wildlife Refuge System was founded in 1903 when President Theodore Roosevelt designated a 3-acre island off the Florida coast, Pelican Island, as a sanctuary for colonial nesting birds. Today, the System has grown to a network of more than 550 refuges, 37 wetland management districts, and 49 coordination areas covering approximately 150 million acres of public lands and waters. Most of these lands are contained within Alaska's 16 national wildlife refuges with the remainder distributed throughout the other 49 states and U.S. territories. Since 2006 Marine National Monuments have been added to the Refuge System, adding more than 50 million acres in the Pacific Ocean to the Refuge System.

The National Wildlife Refuge System is the world's largest collection of lands and waters specifically designated and managed for fish and wildlife. Overall, it provides habitat for more than 700 species of birds, 220 species of mammals, 250 reptile and amphibian species, 200 species of fish, and more than 280 threatened or endangered plants and animals. As a result of international treaties for migratory bird conservation and related legislation such as the Migratory Bird Conservation Act of 1929, many refuges have been established to protect migratory waterfowl and their migration flyways that extend from nesting grounds in the north to

wintering areas in the south. Refuges also play a vital role in preserving threatened and endangered species. For example, Aransas NWR in Texas serves as the winter home of the Whooping Crane, the Florida Panther Refuge protects its namesake, *Felis concolor coryii*, one of the nation's most endangered mammals, while the Hawaiian Islands Refuge is home to the Laysan Duck, Hawaiian monk seal, and many other unique species.

Refuges also provide important recreation and education opportunities for visitors. When public uses are deemed appropriate and compatible with wildlife and habitat conservation, they are places where people can enjoy hunting, fishing, wildlife observation, photography, environmental education, environmental interpretation, and other recreational activities. Many refuges have visitor centers, wildlife trails, automobile tours, and environmental education programs. Nationwide, more than 40 million people visit national wildlife refuges annually.

### 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." (National Wildlife Refuge System Improvement Act of 1997 - Public Law 105-57).

### Goals of the National Wildlife Refuge System

Revised goals for the National Wildlife Refuge System were adopted on July 26, 2006, and incorporated into Part 601, Chapter 1, of the Fish and Wildlife Service Manual (601 FW 1). The goals are:

- Conserve a diversity of fish, wildlife, and plants and their habitats, including species that are endangered or threatened with becoming endangered.



Skunk Lake. Photo credit: Beau Liddell

- Develop and maintain a network of habitats for migratory birds, anadromous and interjurisdictional fish, and marine mammal populations that is strategically distributed and carefully managed to meet important life history needs of these species across their ranges.
- Conserve those ecosystems, plant communities, wetlands of national or international significance, and landscapes and seascapes that are unique, rare, declining, or underrepresented in existing protection efforts.
- Provide and enhance opportunities to participate in compatible wildlife-dependent recreation (hunting, fishing, wildlife observation and photography, and environmental education and interpretation).
- Foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife.

## Laws and Directives for Refuge Planning

In addition to the National Wildlife Refuge System Improvement Act of 1997 and a Refuge's establishing and authorizing legislation, several federal laws, executive orders, and regulations govern the administration of each Refuge. Key legislative policies that direct refuge management include the Endangered Species Act (1973), Clean Water Act (1977), Land and Water Conservation Fund (1965), and the Migratory Bird Treaty Act (1918). Appendix F contains a partial list of the legal mandates that guided the preparation of this plan and those that pertain to Refuge management activities.



*Blue-winged Teal drake. Photo credit: Beau Liddell*

Laws and policies related directly to comprehensive conservation planning include:

- National Wildlife Refuge Improvement Act of 1997 (Public Law 105-57)
- Biological Integrity, Diversity, and Environmental Health Policy (601 FW3)
- Compatibility Policy (603 FW2)
- Wildlife-dependent Public Uses (605 FW 1)
- Coordination with State Natural Resource Agencies (601 FW 7)
- Public Participation in CCP Development (602 FW 3)

## Purpose of a Comprehensive Conservation Plan

This CCP describes the management direction and desired future conditions for Crane Meadows NWR over the next 15 years. The plan provides guidance and rationale for management actions and will be used by the Refuge manager and staff as a reference document when developing work plans and making management decisions. Through the development of goals, objectives, and strategies, this CCP describes how the Refuge contributes to the overall mission of the National Wildlife Refuge System, fulfills the purposes designated for the Refuge, and uses the best available science for adaptive management.

This plan will enhance the management of Crane Meadows NWR by:

- Providing a clear statement of desired conditions and management direction for the Refuge
- Maintaining continuity in Refuge management over time
- Integrating Refuge activities with conservation activities that occur in the surrounding region
- Ensuring that Refuge management is consistent with all applicable laws, policies, and plans
- Providing Refuge neighbors, visitors, and the general public with an understanding of the Service's management actions on and around the Refuge
- Facilitating public involvement in Refuge management decisions by providing a process for effective coordination, interaction, and cooperation with affected parties, including federal agencies, state conservation organizations, adjacent landowners, and interested members of the public
- Demonstrating support for management decisions and their rationale using sound profes-



Opossum. Photo Credit: Beau Liddell

sional judgment, biological initiatives, and public involvement

- Ensuring that Refuge management considers the preservation of historic properties as part of Refuge management and planning
- Providing a sound basis for budget requests to meet Refuge operational, maintenance, and capital improvement needs

## Refuge History and Establishment

In pre-colonial times a number of Native American groups including the Dakotah, and later the Ojibwe, inhabited the central region of Minnesota. Their life and culture are evidenced by the presence of burial mounds and other artifacts in the area. These Native American groups harvested wild rice (*Zizania spp.*) from Rice and Skunk Lakes and navigated adjacent creeks and rivers.

Among the first Europeans in the area were English and French fur traders in the 1600s. Morrison County itself was named in honor of William and Allan Morrison, two brothers who did a great deal of trapping and trading throughout central and northern Minnesota. In the early 1800s a number of explorers passed through the region along the Mississippi River, including Zebulon Pike (1805) and Joseph Nicolle (1836). Methodist missionaries were among the first permanent European settlers, arriving around the middle of the 19th century. Building missions and schools for the Ojibwe, they settled in areas surrounding the Refuge such as Belle Prairie, Sobieski, and Pierz. Logging interests increased here around the turn of the century, harnessing the Mississippi River to power a local sawmill in Little Falls, Minnesota. The Historical Atlas of Minnesota published in 1874 (Andreas) describes stands of 'pine and mixed timber' northeast of the Refuge,

'mostly oak' to the south and east, and 'bur oak and timber' to the west. In the same period as agriculture increased in the region additional mills were built in Little Falls to grind flour.

Located 8 miles southeast of Little Falls, Crane Meadows NWR is one of 12 refuges in the state of Minnesota. Located about a 1-hour drive to the southeast, Sherburne NWR is its closest neighboring refuge. The two refuges are under shared management.

The wetland complex that comprises Crane Meadows NWR includes two large shallow lakes, Rice and Skunk, one smaller open water basin, Mud Lake, and four watercourses that drain to this area; the Platte River, Skunk River, Rice Creek and Buckman Creek. These major hydrologic features are surrounded primarily by sedge meadow wetlands and other bottomland habitats. The complex has a history of extreme water fluctuations following seasonal variations in rainfall and runoff. Flooding is common in the spring due to snowmelt and runoff from surrounding uplands and watercourses that drain to the area. Typically, water levels decrease during the summer months, then a resurgence and renewed flooding occurs in the fall. These natural cycles provide excellent habitat for fish, invertebrates, wild rice, and other aquatic vegetation, which in turn supports large concentrations of migratory waterfowl and other wildlife.

The wet conditions of this locality have limited the types of land use on the Refuge through history, and has directed attention in the area toward recreational uses such as hunting and fishing. This area was noted as a premier hunting destination in Minnesota as early as the 1930s. In the 1960s the Minnesota Department of Natural Resources (DNR) began purchasing land in the complex, adding to the agency's system of Wildlife Management Areas (WMA). In addition to acquiring almost 850 acres of land in the early 1970s, the DNR constructed a weir on the Platte River as it exits the wetland complex to stabilize water levels and facilitate seasonal water access to the shallow lakes. Over time, there has been a trend toward land conversion from natural cover types to agriculture and the intensification of agriculture in the watershed, including the draining and tiling of surrounding wetlands. These changes have altered the flow dynamics of the hydrologic system and impacted the quality of the water passing through the wetland complex.

In 1990, a Regional Wetlands Concept Plan was created by the Service for the Midwest Region (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin) in response to the Emergency Wetlands Resources Act of 1986. Of the six sites identified for potential acquisition in Minnesota, the

**Table 1: Land Acquisition History at Crane Meadows NWR**

Year	Total Properties Acquired	Total Acres Acquired	Total Refuge Acres
1994	7	1,070.00	1070.00
1995	6	312.69	1382.69
1996	2	100.99	1483.68
1997	-	-	-
1998	2	140.00	1623.68
1999	-	-	-
2000	-	-	-
2001	1	-	1687.50
2002	-	-	-
2003	-	-	-
2004	1	26.67	1714.17
2005	-	-	-
2006	1	40.00	1754.17
2007	-	-	-
2008	1	48.42	1802.59

wetland system at Crane Meadows NWR was among the largest and most intact. The report indicated that this area is: "One of the last undisturbed wetland complexes in Central Minnesota. (An) important area for waterfowl, Sandhill Cranes, diverse vegetation communities, and nongame species (FWS, 1990, p. 36)." The report identified an area of 35,000 acres with conservation potential. Subsequently, an environmental assessment was conducted that, in June of 1992, authorized the acquisition of 13,540 acres for a new refuge, Crane Meadows National Wildlife Refuge.

The Nature Conservancy (TNC) was a key partner in the acquisition of the first set of properties for the Refuge. The organization purchased seven properties totaling 1,070 acres within the acquisition boundary in early 1990. The Nature Conservancy then donated one property and leased the remaining six to the Service in 1993, officially establishing a land base of the Refuge. In the years to follow, 14 additional acquisitions were made as shown in Table 1. The only congressional appropriation of funds for land acquisition at Crane Meadows NWR was made in 1995. Recent acquisitions have been made from willing sellers through grants, donations, and other funding sources.

## Refuge Purposes

National wildlife refuges are established under a variety of legislative acts and administrative orders and authorities. These orders and authorities include one or more specific purposes for which the refuge lands are acquired. The purposes are of key importance in refuge planning, and are the foundation for management decisions. The purposes of a refuge are specified in, or derived from the law, proclamation, executive order, agreement, public land order, donation document, or administrative memorandum establishing, authorizing, or expanding a refuge, refuge unit, or refuge subunit.

By law, refuges are to be managed to achieve their purposes, and unless otherwise indicated by the establishing document the following rules apply:

- Purposes dealing with the conservation, management, and restoration of fish, wildlife, and plants, and their habitats take precedence over other management and administration purposes.
- When in conflict, the purpose of an individual refuge may supersede the Refuge System mission.
- Where a refuge has multiple purposes related to fish, wildlife, and plant conservation, the more specific purpose will take precedence in instances of conflict.



Ring-necked Ducks on Rice Lake, in front of Crane Meadows NWR property. Photo credit: Beau Liddell

- When an additional unit is acquired under a different authority than that used to establish the original unit, the addition takes on the purpose(s) of the original unit, but the original unit does not take on the purpose(s) of the addition.

The Refuge's establishing authorities and related purposes include:

*Fish and Wildlife Act of 1956*

“... for the development, advancement, management, conservation, and protection of fish and wildlife resources ...” 16 U.S.C. 742f(a)(4)

“... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude ...” 16 U.S.C. 742f(b)(1)

*Emergency Wetlands Resources Act of 1986*

“... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ...” 16 U.S.C. 3901(b), 100 Stat. 3583

The Refuge is also responsible for 21 conservation easements in Morrison County totaling 1,683.2 acres. The purpose of these easements “...for conservation purposes...” is derived from the Consolidated Farm and Rural Development Act of 1961 (7 USC 2002). The Service administers Farm Service Administration (FSA) easements as part of the National Wildlife Refuge System.

## Refuge Vision

The vision provides a simple statement of the desired future condition of the Refuge. It provides a sense of direction and an ideal for what the Refuge will become through effective management. The purposes of the Refuge and the mission of the Sys-

tem provide the foundation for the vision, and are enhanced by the unique characteristics of the Refuge and local environment.

## Crane Meadows NWR Vision Statement

Crane Meadows National Wildlife Refuge is a unique sand plain wetland/upland complex with a rich mosaic of healthy sedge meadow, shallow lake, oak savanna, prairie, shrubland, and forest habitats. The Refuge encompasses a large intact wetland system at the confluence of four tributaries that feed high quality water to Rice and Skunk Lakes and the Platte River. The Refuge provides important habitat for cranes, waterfowl, and a diversity of other wildlife. Visitors enjoy a variety of wildlife-dependent recreation activities that inspire a heightened environmental ethic and active support for the Refuge and its programs. Crane Meadows NWR is an outstanding example of sound wildlife management and habitat restoration within the National Wildlife Refuge System.