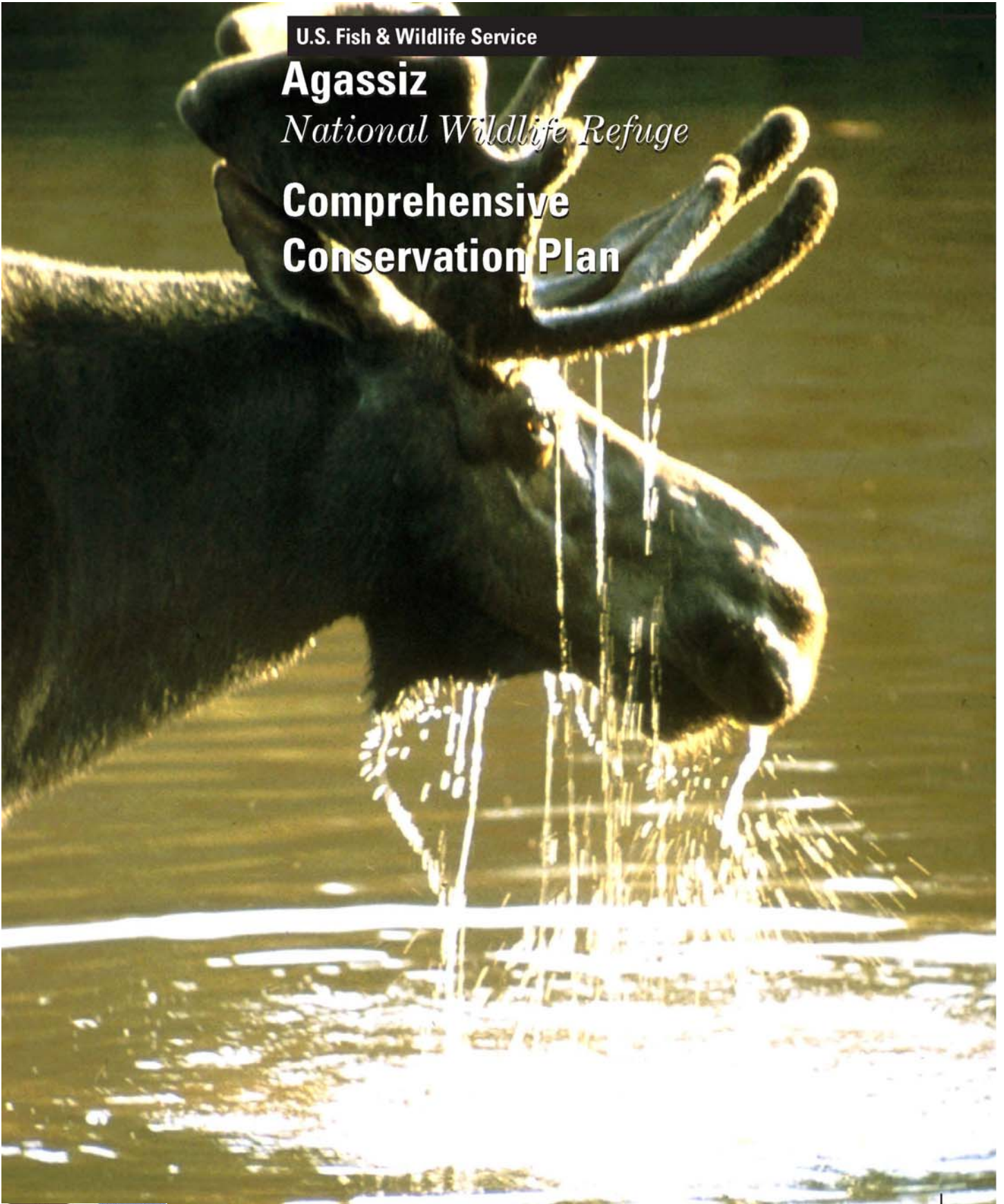


U.S. Fish & Wildlife Service

Agassiz

National Wildlife Refuge

Comprehensive Conservation Plan



The mission of the U.S. Fish & Wildlife Service is working with others to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people.

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

Mission of the National Wildlife Refuge System

Comprehensive Conservation Plans provide long-term guidance for management decisions; set forth goals, objectives and strategies needed to accomplish refuge purposes; and, identify the Fish and Wildlife Service's best estimate of future needs. These plans detail program planning levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. The plans do not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.

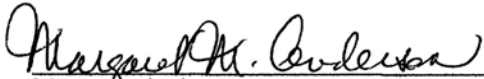
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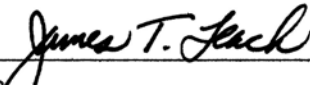
Comprehensive Conservation Plan Approval

Submitted by:

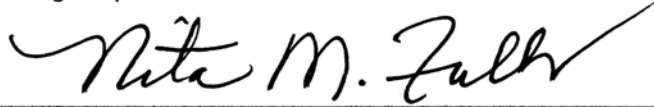

Margaret Anderson
Refuge Manager

June 3, 2005
Date

Concur:

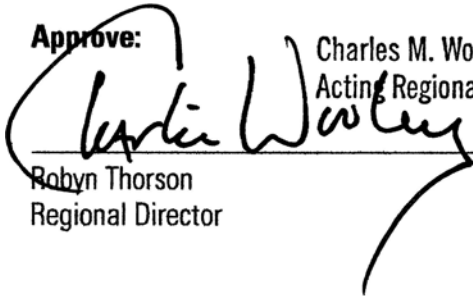

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National Wildlife Refuge Comprehensive Conservation Plan

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Summary Comprehensive Conservation Plan



Introduction

Some 10,000 years ago, the last Ice Age was nearly spent. As the frigid grip of the Pleistocene Epoch weakened, the great continental glaciers that had blanketed the northern expanses of North America under thousands of feet of ice for the better part of two million years melted and receded. One of these glaciers spanned an area greater than that of the present-day five Great Lakes, and meltwater poured from it to form an enormous inland sea. One hundred centuries later, that prehistoric, glacial lake would be named in honor of the Swiss-American naturalist and geologist, Jean Louis Rodolphe Agassiz.

Agassiz National Wildlife Refuge (NWR), established in 1937 as Mud Lake Refuge, was re-named in 1961 for this vast, ancient body of

water – Glacial Lake Agassiz – that produced the exceedingly flat terrain characterizing the area today. The Refuge lies in the aspen parkland transitional zone between the coniferous or boreal forest to the north and east and the tallgrass prairie and prairie pothole region to the west and south. This diversity of habitats in turn supports a wide diversity of resident and migratory wildlife, including 287 species of birds, 49 species of mammals, 12 species of amphibians, and nine species of reptiles.

President Franklin D. Roosevelt established the Refuge by Executive Order 7583 on March 23, 1937. Its primary purpose was to be “a refuge and breeding ground for migratory birds and other wildlife.” Although its original focus was on waterfowl (ducks and geese), over the years other migratory birds and year-round resident wildlife, including mammals such as moose, deer, and wolves, have received an increasing emphasis in Refuge management.

The National Wildlife Refuge System Improvement Act of 1997 mandated that each national wildlife refuge in the country to develop a Comprehensive Conservation Plan (CCP) to direct its management. To that end, the Service, with the participation of the Red Lake Band of the Chippewa, the Minnesota Department of Natural Resources (DNR), and other partners, developed this draft CCP. It provides management goals and objectives to guide the Refuge and strategies to implement over the next 15 years. An Environmental Assessment (EA) outlining several future management directions was also written and is published with the CCP.

The CCP is a vital part of the future of Agassiz National Wildlife Refuge. Although prepared by the U.S. Fish and Wildlife Service (Service), the Draft CCP and EA reflects the thoughts, ideas and concerns of many organizations and local residents.

Vital Statistics

The northern boundary of Agassiz NWR is within 40 miles of the Canadian province of Manitoba and Lake of the Woods, which straddles the U.S.-Canadian border. The nearest city is Grand Forks, North Dakota, 75 highway miles to the southwest. The City of Thief River Falls lies 25 miles to the southwest.

The Refuge’s 61,500 acres are a key breeding ground for 17 species of ducks and the Refuge is an important migration rest stop for waterfowl. The Refuge is also noted for two resident packs of gray wolves, moose, and nesting Bald Eagles.

Agassiz NWR includes the following habitats, in the approximate acreages shown:

- # 37,400 acres of wetland and shallow open water (“pools”);
- # 11,650 acres of shrubland;
- # 9,900 acres of woodland;
- # 1,710 acres of grassland;
- # 170 acres of cropland managed for the benefit of wildlife; and
- # 670 acres of developed land (roads, parking lots, etc.)

Agassiz NWR is an integral part of a sizeable complex of lands managed for wildlife. The Minnesota DNR has acquired and manages over 50,000 acres in three large and several smaller nearby Wildlife Management Areas. The Minnesota DNR works closely with Refuge staff on issues of mutual concern.

As a result of the 1985 Food Security Act, Agassiz NWR assumed additional responsibilities for a seven-county Refuge Management District (RMD). Staff duties expanded to include working with the National Resources Conservation Service (NRCS) and Farm Service Agency (FSA) on wetland determinations, Swampbuster Act provisions, and the Conservation Reserve Program (CRP). The Refuge actively collaborates on habitat restoration projects for both uplands and wetlands on private and CRP lands throughout its Management District.

The Refuge Environment

Agassiz National Wildlife Refuge is located in the Mississippi Headwaters/Tallgrass Prairie Ecosystem as defined by the U.S. Fish and Wildlife Service. This ecosystem is primarily located in Minnesota and North Dakota with small portions extending into Wisconsin and Iowa. The three major ecological communities within this ecosystem are the tallgrass prairie (which includes oak savanna and barrens), the northern boreal forest, and the eastern deciduous forest. Of the three major ecological communities, the tallgrass prairie is by far the most threatened, with more than 99 percent having been converted to agricultural uses.



Agassiz NWR is located in the eastern Red River Valley, an area with relatively flat terrain and a gentle gradient averaging 1.5 feet per mile, sloping from east to west across the Refuge. The climate is continental, with long, cold winters and relatively short, hot summers. Winter is relatively dry, and summer is the wettest season; thunderstorms are the main source of rain in the area. The major threat of flooding at Agassiz NWR is the result of spring runoff of snowmelt following wet winters. Flooding is one of the key issues affecting the Refuge – both its habitat and its facilities – as well as the neighboring region.

The Refuge includes 26 impoundments (known variously as lakes, ponds, pools, or moist soil units) and three natural lakes. Whiskey Lake and Kuriko Lake are located within the Refuge's designated Wilderness Area and Webster Lake is located in the northeast area of the Refuge. The artificial impoundments vary widely in size, ranging from 30 acres to the approximately 9,000 acres that comprise the Agassiz Pool. Water is contained

within the impoundments by an extensive network of dikes. Water levels can be raised or lowered in any given impoundment by adjusting water control structures at pool outlets. The Refuge's dominant geographic features are its impoundments with their marshes, mudflats, and open water. They are also the focus of the Refuge's aquatic habitat management efforts on behalf of migratory birds.

Who We Are and What We Do

The Refuge is administered by the U.S. Fish and Wildlife 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 like wetlands. The Service also manages 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 over 545 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, reptiles, amphibians, and insects. On national wildlife refuges, "Wildlife Comes First," but they also provide people with unique opportunities for outdoor activities, when they are compatible with wildlife and habitat conservation. Refuges 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, observation towers and platforms, automobile tours, and environmental education programs. Nationwide, approximately 30 million people visit national wildlife refuges each year.

Refuge Vision

Agassiz National Wildlife Refuge lies within the shallow depressional lake plains formed by the pre-historic Glacial Lake Agassiz. The Refuge is located within the aspen parkland transitional zone between the tallgrass prairie to the west and northern forest to the east. Agassiz comprises a diversity of plant and animal species, typical of ecotonal communities. Since the beginning of the 20th century, the lands within this area have been manipulated for agricultural purposes, which highly modified natural landscapes and ecosystem functions. Since its establishment, the Refuge has been intensively managed for the benefit of migratory birds and other wildlife through the construction of dikes and water control structures.

Agassiz National Wildlife Refuge and the surrounding area will be the premier natural resource of Marshall County and northwestern Minnesota. The Refuge and its seven-county management district, working with partners, will take a landscape approach to promote functional watersheds and connect natural areas. Refuge management programs and activities will emulate natural functions and processes of the different native habitats for optimal wildlife use. The resulting

benefits will be showcased to demonstrate the compatibility of biological diversity, integrity, natural ecological processes and sustainable agriculture.

People will be attracted to the Refuge and northwestern Minnesota to view and enjoy the wonders of natural ecosystems. Visitors will have quality, wildlife-dependent experiences that provide personal and societal benefits, such as a sense of peace and tranquility and support of a strong conservation ethic. Refuge staff, visitors and the community will understand and appreciate a well-functioning landscape and the cultural history of the area. This vision will be the catalyst to further strengthen a positive community-Refuge relationship.

The Planning Process

Agassiz National Wildlife Refuge's CCP has been written with input and assistance from private citizens, non-governmental conservation organizations (NGOs), and employees of tribal, state, and local agencies. The participation of these stakeholders is vital and all of their ideas have been valuable in determining the future direction of the Refuge and its Management District.

On the evening of December 5, 2002, the USFWS and Agassiz staff welcomed the public to an open house and CCP/EA scoping meeting at the Heritage Center in Thief River Falls. About 30 individuals attended the meeting, most of whom were from Marshall County and all of whom were Minnesota residents. Attendees listened to an overview of the CCP and EA processes and then were given the chance to address the gathering.



Public input continued on Saturday, January 18, 2003, during a 1-day focus group or "technical working group" meeting at Northland Community and Technical College in Thief River Falls. The approximately 30 participants in this all-day event had the opportunity to discuss and explore in greater depth the various Refuge issues, goals, and opportunities in a relaxed, congenial setting. Refuge staff sent invitations to a number of stakeholders in the area. Individuals who signed up at the scoping meeting on their own, and all members of the public were welcome, provided they were willing to commit an entire Saturday to helping

plan the future of the Refuge.

The Draft CCP/EA was released for public review and comment on March 3, 2005. A Draft CCP/EA or a summary of the document was sent to more than 200 individuals, organizations, and local, state and federal agencies and elected officials. An open house event was held on April 6, 2005, in Thief River Falls following release of the draft document. We received a total of 20 comment letters and e-mails during the 45-day review period. Appendix K of the CCP summarizes these comments and our responses. Several of the comments resulted in changes into the CCP.

Refuge Issues

The Planning Team organized all of the issues/concerns/opportunities received during the public scoping process into five major categories. Many of the goals, objectives and strategies presented in this draft CCP relate to one or more of the issue categories. The categories include habitat management, water management, wildlife management, public use and cultural resources.

Habitat Management

The Refuge's major habitat management issues include the following: loss of sedge meadow (an increasingly rare habitat type in Minnesota), drawdown frequency to provide shorebird habitat, prairie restoration on old cropfields, invasive plant species, food plots for wildlife, alteration of designated Wilderness habitat due to management of impoundments, prescribed fire, forest habitats, commitment to wildlife and natural resources, and off-Refuge involvement in providing habitat.

Water Management

Water is a central fact of life at Agassiz. Managing flows and levels is critical not only to wildlife and habitat, but to minimizing on and off-Refuge impacts of floods.

Major water management issues include the following: waterfowl versus non-game water-dependent species, flood control, and maintenance of drainage ditches.

Wildlife Management

Managing wildlife populations in perpetuity for the continuing benefit of the American people is the very reason the Refuge exists. Major wildlife management issues include: nuisance wildlife control, non-game species, threatened and endangered species, and wildlife diseases.

Public Use

The Refuge provides the visiting public with opportunities to enjoy a number of wildlife-dependent recreational pursuits. Major public use issues include: deer hunting, upland game and waterfowl hunting, fishing, trapping, wildlife observation platforms and towers, miscellaneous forms of motorized and non-motorized recreation, the visitor center, visitor access, appearance of facilities, outreach, and environmental education.



Cultural Resources

The Refuge has a legal responsibility to preserve its ample cultural resources. A principal cultural resources issue is interpretation of the Mud Lake homesteads and Civilian Conservation Corps (CCC) buildings.

Management Direction

Based on the issues, concerns and opportunities we heard during the scoping process, the Planning Team developed three alternative management scenarios that could be used at Agassiz NWR. These alternatives and the consequences of adopting each were fully presented in the Environmental Assessment that was published with the draft CCP.

Alternative C, Open Landscape/Natural Watercourses, is the preferred alternative and was the basis for development of this CCP.

Alternative C – Open Landscape/Natural Watercourses (Selected Alternative)

Under the Open Landscape / Natural Watercourses Alternative (selected alternative), Agassiz NWR's water impoundments continue to be managed to provide a variety of water conditions for waterbirds (e.g., ducks, geese, shorebirds, and wading birds) during spring, summer, and fall. As in the No Action Alternative, furbearers are managed through a trapping program and hunting is used as a management tool to maintain an optimal white-tailed deer population for a quality hunt program and as a food source for gray wolves. Moose are managed for wildlife viewing and a quality hunt program, though their numbers are currently too low to permit hunting on the Refuge.

The Open Landscape / Natural Watercourses Alternative focuses on setting back upland succession in the southeast corner of the Refuge and experimenting with restoring sinuosity on two interior watercourses by lowering water levels in three pools. While there is minimal management of the Refuge's designated Wilderness Area, both prescribed and wildland fires may occur there.

A large focal area of uplands is managed as a grassland/shrubland matrix. Remaining uplands are managed in a mix of aspen forest, oak savannas, open grasslands, and shrub/scrub but only as time and personnel resources allow after activities in the focus area are achieved. Refuge management designates old-growth aspen areas. Prescribed fire is used to control succession. Croplands are phased out over time as natural grassland habitats are established. This alternative's large, open-area approach benefits from partnership with adjacent Minnesota DNR lands and private landowners. Invasive plant species continue to be

controlled using a variety of chemical, mechanical and biological methods.

Off-Refuge habitat activities are expanded with a primary focus on lands adjacent to the Refuge, open areas, and riparian areas district-wide. Off-Refuge habitat activities include FSA easements, Partners for Fish and Wildlife programs, CREP activities, participation on inter-agency teams, and other partnership efforts.



Public use under the Open Landscape / Natural Watercourses Alternative is served by a variety of on-Refuge environmental education, seasonal auto-tour routes, annual open houses, foot trails, visitor contact station, and observation platforms. Winter wildlife viewing will be enhanced with a designated, ungroomed cross-country/snowshoe/walking trail. The hunting program includes a firearms deer and moose season, when appropriate. New hunting opportunities are provided.

During and after the deer/firearms season, archery/deer, muzzleloader/deer and Ruffed and Sharp-tail Grouse hunting will be permitted in the same areas open to deer/firearms. Following the deer/firearms season strategic parking lots will be opened; however, this will be primarily a walk-in hunt as Refuge roads will not be plowed. A “youth” waterfowl hunt will be permitted in the Farmes Pool area in conjunction with the state youth waterfowl hunt season and regulations. The Refuge’s shallow and/or seasonal water bodies do not lend themselves to fishing, so as in the other two alternatives, there is also no fishing under this alternative. Off-Refuge outreach includes school talks, radio programs, informational kits, displays at fairs, etc. Five of the six public uses allowed on the National Wildlife Refuge System are encouraged and take place at Agassiz NWR under this alternative.

Flood waters are accommodated only prior to nesting season or when extreme events have made it uncontrollable.

Planned Refuge Program Highlights

The Comprehensive Conservation Plan, developed from the preferred alternative, identifies a number of key programs and strategies that can be implemented:

Habitat Management and Restoration

A large focal area of uplands will be managed as a grassland/shrubland matrix. We will seek to increase the area of native habitats that have declined locally and in Minnesota over the past century, such as prairie grasslands, sedge meadow, and bur oak/savanna. Simultaneously, the Refuge will aim to reduce the area now taken over by lowland shrub, aspen/mixed hardwood, and cattail or phragmites-dominated marsh, which either have lower intrinsic value for wildlife or have simply become too abundant. In turn, these habitat shifts will help those wildlife species associated with the rarer habitats.

Water Management

The Refuge proposes to restore a more natural sinuosity on two interior watercourses by lowering water levels in three pools. With that effort, the die-off of conifers in the Wilderness Area, which may be related to high water, will be studied.



Partnerships

A principal theme throughout the CCP is the tremendous potential for expanding and reinvigorating partnerships to attain the purpose, goals, and objectives of the Refuge. Existing and potential partners include nearby communities, industries, tribal, state and local governments, private citizens, and non-profit organizations. Many such partnerships already exist, but the Refuge has further potential for bringing together larger and more effective private and public partnerships for the mutual benefit of the Refuge as well as these stakeholders.

Volunteers

We hope to expand on our active pool of volunteers to assist in everything from research, habitat improvement projects, and environmental education on and off-Refuge. The goal of any Refuge volunteer program is to have staff and volunteers working side by side in the most efficient manner to accomplish the goals and objectives of the Refuge.

Expanded Public Use Opportunities

Winter wildlife viewing will be enhanced with a designated, un-groomed cross-country/snowshoe/ walking trail. New hunting opportunities are proposed. During and after the deer/firearms season, archery/ deer, muzzleloader/deer and Ruffed and Sharp-tailed Grouse hunting will be permitted in the same areas open to deer/firearms. A “youth” waterfowl hunt will be permitted in the Farmed Pool area in conjunction with the state youth waterfowl hunt season and regulations.

Plan Implementation, Monitoring and Evaluation

This CCP outlines an ambitious but achievable course of action for the future management of Agassiz NWR. Pursuing and ultimately achieving goals set out in this CCP will require considerable staff and partnership commitment. Throughout the life of this CCP we will monitor our progress on achieving the goals, objectives and strategies it establishes. On a periodic basis, the Service will evaluate Refuge activities in light of the CCP. Additional “step-down” management plans will also be necessary to provide more details on Refuge programs such as visitor services, hunting, law enforcement, habitat, and fire and water management.

Chapter 1: Introduction and Background



Introduction

Some 10,000 years ago, the Ice Age was nearly spent. As the frigid grip of the Pleistocene Epoch weakened, the great continental glaciers that had blanketed the northern expanses of North America under thousands of feet of ice for the better part of two million years melted and receded. One of these glaciers spanned an area greater than that of the present-day five Great Lakes, and meltwater poured from it to form an enormous inland sea. One hundred centuries later, that prehistoric, glacial lake would be named in honor of the Swiss-American naturalist and geologist, Jean Louis Rodolphe Agassiz.

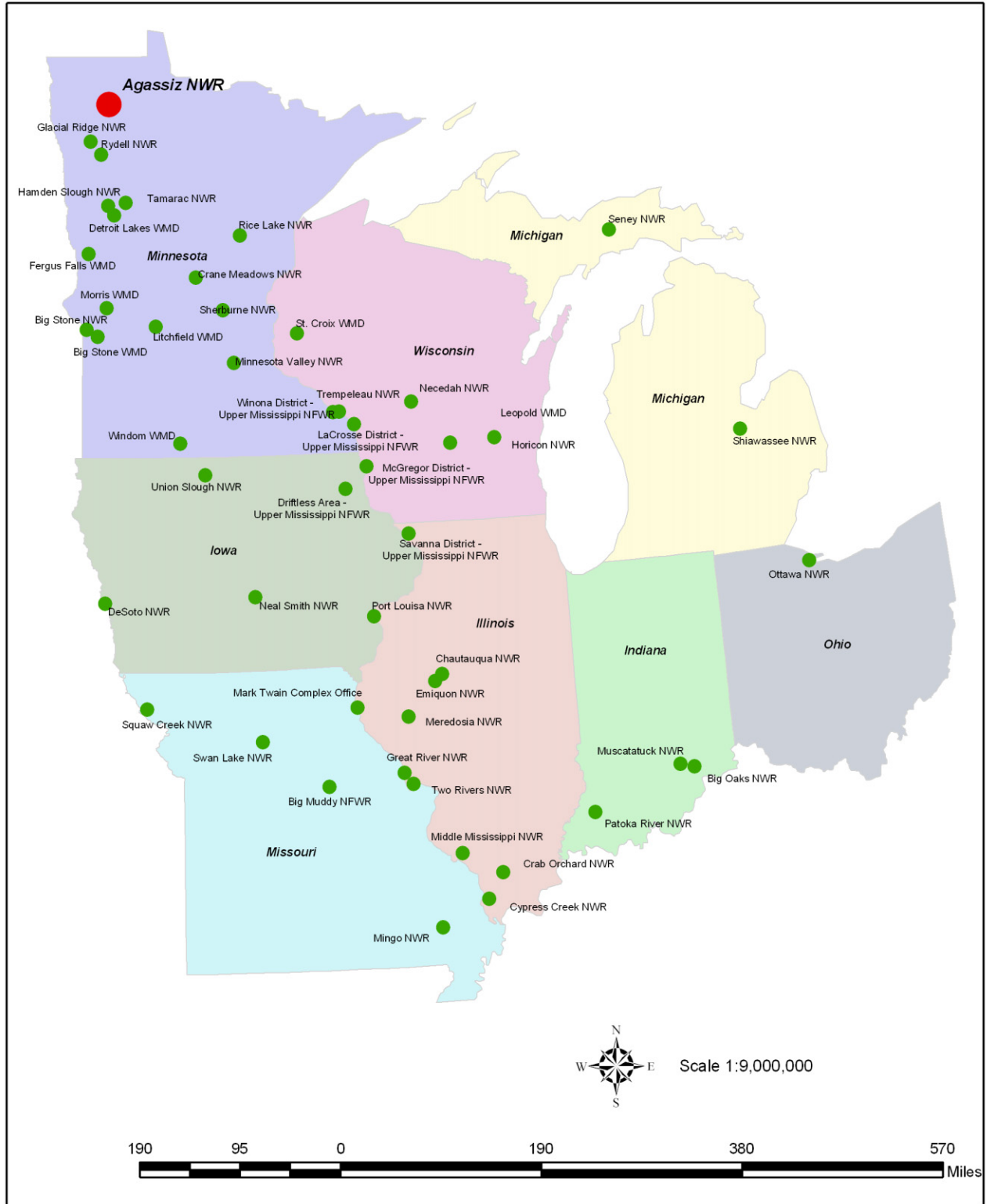
Agassiz National Wildlife Refuge (NWR), established in 1937 as Mud Lake Refuge, was re-named in 1961 for this vast, ancient body of water – Glacial Lake Agassiz – that produced the exceedingly flat terrain characterizing the area today. Located in northwestern Minnesota, the Refuge lies in the aspen parkland transitional zone between the coniferous or boreal forest to the north and east and the tallgrass prairie and prairie pothole provinces to the west and south (Figure 1). This diversity of habitats in turn supports a wide diversity of resident and migratory wildlife, including 287 species of birds, 49 species of mammals, 12 species of amphibians, and nine species of reptiles.

Agassiz NWR is a key breeding ground for 17 species of ducks and it is an important migration rest stop for waterfowl. It is also noted for two resident packs of gray wolves, moose, nesting Bald Eagles, and consistently hosting the largest Franklin's Gull colony in the United States.

Agassiz NWR is comprised of the following habitats, in the approximate acreages shown:

- # 37,400 acres of wetland and shallow open water ("pools");
- # 11,650 acres of shrubland;
- # 9,900 acres of woodland;
- # 1,710 acres of grassland;
- # 670 acres of developed land (roads, parking lots, and buildings); and
- # 170 acres of cropland managed for the benefit of wildlife

Figure 1: Location of Agassiz NWR and National Wildlife Refuges/Wetland Management Districts in Region 3 of the U.S. Fish & Wildlife Service



The Refuge area wasn't always this way. A century ago, settlers were lured by farming promoters into what was then a boggy wilderness, checkered with wetlands and ponds, hoping to convert it to farmland. It was called the Mud Lake area. In 1909, in an effort to make farming more feasible and productive, state, local and private interests, supported by loans from the federal government, undertook a large, expensive drainage project. This drainage system eventually became one of the largest public drainage project ever

undertaken in the United States.

“*There was at first the land and the people who lived there: a land of wonderful, fertile game-on the drainage system without the producing bogs and oak and aspen forests. The bogs anticipated farming success. High tax produced food for waterfowl which darkened the assessments on drainage costs were a skies in flight; rivers that fish swam in; and a major financial burden on affected landowners, and ultimately the financial condition of Marshall County. To rescue the caribou, deer, muskrat, beaver, mink, and squirrel. In addition, there were the caribou, deer, moose and other wildlife.*”

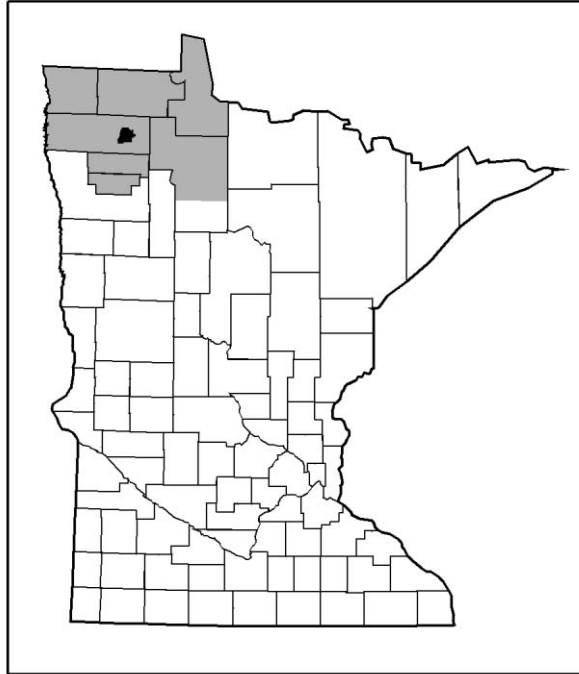
passed a statute to absorb the drainage taxes and authorized Betty Rantanen, 1976 the lands to be purchased for the Marshall County resident development of the Mud Lake Migratory Waterfowl Refuge. President Franklin D. Roosevelt established the new refuge by Executive Order 7583 on March 23, 1937.

Once established as a unit of the National Wildlife Refuge System, the Refuge’s wildlife benefited greatly from active habitat management conducted by Refuge staff. Wetlands were restored through an extensive system of dikes and water control structures. Twenty-six pools/impoundments were developed ranging in size from 30 to 9,000 acres. Today water levels and flows are manipulated to create a variety of wetland types with a mix of emergent and submerged vegetation communities. This management of water is a vital tool used to benefit waterfowl and other water-dependent bird species at Agassiz NWR. In addition, prescribed fire and mowing are widely employed to manage habitats such as grasslands, shrublands, and sedge meadows to benefit nesting waterfowl, deer, moose, songbirds, and other native wildlife. Farming has been used to attract migrating waterfowl and to benefit resident wildlife. A variety of small grains have been planted including barley, oats, and wheat.

As a result of the 1985 Food Security Act-Farm Bill, Agassiz NWR became a Refuge Management District (RMD) in 1989. Staff duties expanded to include working with the National Resources Conservation Service (NRCS) and Farm Service Agency (FSA) on wetland determinations, Swampbuster responsibility, and the Conservation Reserve Program (CRP) across portions of seven counties in northwestern Minnesota. The RMD includes Red Lake, Pennington, Marshall, Kittson, Roseau, and Lake of the Woods counties in their entirety, and a part of Beltrami County (Figure 2). Currently, about 7,000 acres are managed under permanent easements.

Located in Mud Lake, East Valley, Eckvoll, Whiteford, Cedar and Agder townships of Marshall County, Agassiz NWR is about 25 miles northeast of Thief River Falls. Although off the beaten track, it offers wildlife-related experiences to thousands of visitors every year, including wildlife viewing, photography, hunting, environmental education, and interpretation.

Figure 2: Location of Agassiz NWR Management District



History and Establishment

Prior to the settlement of northwestern Minnesota by Euro-Americans and the vast ecological changes these pioneers wrought, what is now Agassiz NWR consisted largely of marshes, wetlands, and the Mud Lake basin. American Indians of the Eastern Dakota and Anishinaabe tribes inhabited the greater region. Like many natural areas, the Mud Lake basin was subject to considerable climatic variation and corresponding ecological changes on the ground. During dry years, the surface flow of the Thief River would dwindle to almost nothing, or stop altogether, while Mud Lake would shrink in area. Wildland fires swept periodically through vegetation communities, altering plant structure and composition and sometimes causing peat fires, which could create potholes. Flooding from the Thief River also occurred regularly. The swamps and marshes surrounding Mud Lake provided habitat for a rich array of wildlife, including ducks, geese, songbirds, black bear, elk, moose, wolves, muskrats, minks, bobcats, coyotes, weasels, and fish.

The Mud Lake area was the last part of Marshall County to be settled by Euro-Americans, who began homesteading there in the 1890s. Initially, the area's abundant wildlife was a crucial food source for these newcomers. By 1915, approximately 150-200 homesteads had sprung up in the area. In 1909, the massive, federally-supported land drainage project described earlier began, with the goal of converting the soggy swamps and marshes into productive, well-drained farmland. However, agricultural productivity never met expectations, and both drainage and drought continued to plague agriculture in the area. Thus, most of the farmers in the basin were unable to make payments on their drainage assessments, forcing Marshall County's bond payment into default. The county was reportedly on the verge of bankruptcy. The deteriorating financial circumstances of the county and the farmers were no doubt aggravated by the regional drought and nationwide economic depression of the late 1920s and early 1930s. By 1933, approximately \$1 million had been spent on Judicial Ditch 11. The State Legislature appropriated \$750,000 to pay for delinquent drainage taxes on 90 percent of the area.

In the meantime, the Izaak Walton League (a national conservation organization) and other sport hunters had begun to urge the creation of a national migratory bird sanctuary in the vicinity. As a result of the State Legislature's rescue of Marshall County from bankruptcy, the Minnesota Conservation Department

had the right to use lands in the drainage district for conservation purposes. Eventually, this agency, with funds provided by the U.S. Resettlement Administration, acquired properties totaling 55,170 acres by condemnation, and in 1937 transferred them to the federal Bureau of Sport Fisheries and Wildlife (now known as the U.S. Fish & Wildlife Service) for the establishment of Mud Lake NWR. In the six and a half decades since, Agassiz NWR has expanded to 61,500 acres.

Legal Context

In addition to the executive order establishing the Refuge, and the National Wildlife Refuge System Improvement Act of 1997, several federal laws, executive orders, and regulations govern administration of Agassiz NWR. 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.

The U.S. Fish and Wildlife Service

Working with others to conserve, protect, and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. Mission of the U.S. Fish and Wildlife Service



Agassiz NWR and the seven-county Refuge Management District are administered by the U.S. Fish and Wildlife Service. The Service is the primary federal agency responsible for conserving, protecting, and enhancing the nation's fish and wildlife populations and their habitats. It 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.

The National Wildlife Refuge System

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. Mission of the National Wildlife Refuge System

Agassiz NWR is 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 about 545 refuges and wetland management districts covering about 95 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, amphibians, reptiles, and insects. As a result of international treaties for migratory bird conservation and other legislation, such as the Migratory Bird Conservation Act of 1929, many refuges have been established to protect migratory waterfowl and their migratory flyways, from their northern nesting grounds to southern wintering areas. Agassiz NWR serves a dual purpose both as a critical nesting ground and as an important link in the Mississippi Flyway network of refuges that serve as rest stops and feeding stations for migrating ducks and geese.

Refuges also play a crucial role in preserving endangered and threatened species. Among the most notable are Aransas National Wildlife Refuge in Texas, which provides winter habitat for the highly endangered Whooping Crane. Likewise, the Florida Panther Refuge protects one of the nation's most endangered predators. Refuges also provide unique recreational and educational 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 30 million people visited national wildlife refuges in 1997.

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 CCPs 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.

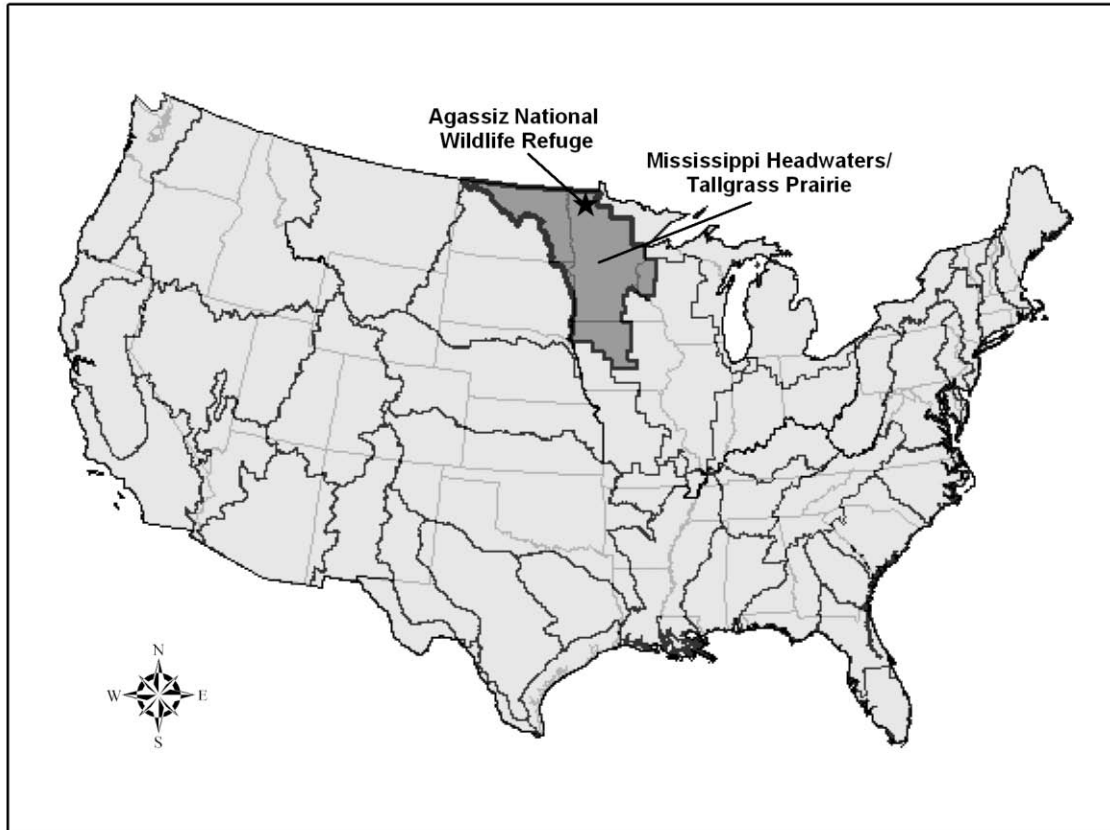
The goals of the National Wildlife Refuge System are to:

- # Fulfill our statutory duty to achieve refuge purpose(s) and further the System mission.
- # Conserve, restore where appropriate, and enhance all species of fish, wildlife, and plants that are endangered or threatened with becoming endangered.
- # Perpetuate migratory bird, inter-jurisdictional fish, and marine mammal populations.
- # Conserve a diversity of fish, wildlife, and plants.
- # Conserve and restore, where appropriate, representative ecosystems of the United States, including ecological processes characteristic of those ecosystems.
- # Foster understanding and instill appreciation of 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 Service has adopted an ecosystem approach to conservation because we cannot look just at an individual animal, species, or fragment of land in isolation from all that surrounds it. We recognize that we are not going to achieve conservation within the boundaries of a national wildlife refuge, or restore aquatic resources with a national fish hatchery, and that listing an endangered species is not going to conserve the system on which it depends. The ecosystem approach thus strives to be comprehensive. It is based on all of the biological resources within a watershed (the total land area from which water drains into a single stream, lake, or ocean) and it considers the economic health of communities within that watershed landscape. An ecosystem approach to fish and wildlife

Figure 3: Mississippi Headwaters/Tallgrass Prairie Ecosystem



conservation means protecting or restoring the function, structure, and species composition of an ecosystem while providing for its sustainable socioeconomic use.

Agassiz NWR and its Management District are located in the Mississippi Headwaters/Tallgrass Prairie Ecosystem as currently defined by the U.S. Fish and Wildlife Service (Figure 3). This ecosystem is primarily located in Minnesota and North Dakota with small portions extending into Wisconsin and Iowa. It falls within the Prairie Pothole Region of North America. The Prairie Pothole Region produces 20 percent of the continental waterfowl populations annually. 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 of the North, 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 attests to its dynamic glacial history.

The three major ecological communities within this ecosystem are the tallgrass prairie (which includes oak savanna and barrens), the northern boreal forest, and the eastern deciduous forest. Grasses common to the tallgrass prairie include 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 dominated by 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, timber harvest and mineral extraction in the northern forests to intensive agriculture in the tallgrass prairie. Of the three major ecological communities, the tallgrass prairie is by far the most threatened, with more than 99 percent of it having been converted to agricultural uses.

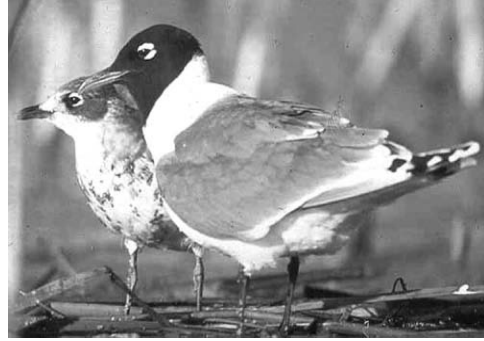
Due to its ecological and vegetative diversity, the Mississippi Headwaters/Tallgrass Prairie Ecosystem supports at least 121 species of neotropical migrants and other migratory birds. It provides breeding and migration habitat for significant populations of waterfowl plus a variety of other waterbirds. 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.

Like all parts of the nation, the Mississippi Headwaters/Tallgrass Prairie Ecosystem is confronted with an invasion of non-native and nuisance species. Most of these "exotic" species are plants, but animals are counted among the invaders as well. Some were brought to the region or country deliberately, and then escaped their confines or intended environment. Others arrived by accident. They can cause extensive and expensive ecological and economic damage throughout the region and the nation as their infestations spread. The primary nuisance species the Service has identified in the Mississippi Headwaters/Tallgrass Prairie Ecosystem are purple loosestrife, Eurasian watermilfoil, spotted knapweed, leafy spurge and the zebra mussel. Reed canary grass, Canada thistle, and hybrid cattail are particularly invasive at Agassiz NWR.

Refuge Purpose

President Franklin D. Roosevelt established Mud Lake Migratory Waterfowl Refuge by Executive Order 7583 on March 23, 1937. Its primary purpose was to be "a refuge and breeding ground for migratory birds and other wildlife." While the Refuge was renamed Agassiz NWR in 1961, its fundamental purpose remained unchanged. Although its original focus was on waterfowl (ducks and geese), over the years, other water-dependent birds, other migratory birds such as neotropical migrants, and "other wildlife" – including mammals such as moose, deer, and wolves – have received increasing emphasis on the part of Refuge managers.

In 1976, Congress designated 4,000 acres in the north-central portion of the Refuge as Wilderness (Public Law 94-557). Section 6 of P.L. 94-557 directs that the Agassiz Wilderness Area be administered in accordance with the provisions of the Wilderness Act. The purposes of the Wilderness Act are to secure an enduring resource of wilderness; to protect and preserve the wilderness character of areas within the National Wilderness Preservation System (NWPS); and to administer the NWPS for the use of enjoyment of the American people in a way that will leave these areas unimpaired for future use and enjoyment as wilderness. Wilderness purposes are "within and supplemental" to refuge establishing purposes. They become additional purposes of the area within the Refuge designated as wilderness.



Refuge Management District

As a result of the 1985 Food Security Act, Agassiz NWR assumed additional responsibilities for a seven-county management district. To date nearly 7,000 acres of permanent easement have been acquired on 40 properties through the Farmers Home Administration (FmHA) and Farm Service Agency (FSA) review process. Refuge staff provide leadership and technical assistance in wetland delineation, preservation, and restoration. The Refuge is involved in habitat restoration projects for both uplands and wetlands on private and CRP lands throughout its Refuge Management District.

Beltrami Island Land Utilization Project Lands

Beltrami Island Land Utilization Project Lands consist of 81,695.5 acres owned by the federal government in scattered parcels throughout the Beltrami Island State Forest and Red Lake Wildlife Management Area in Lake of the Woods, Roseau, and Beltrami counties. The purpose of the Land Utilization Project lands as stated in Executive Order 9091, is that: “such lands be reserved as a refuge and breeding ground for native birds and other wildlife.” The U.S. Fish and Wildlife Service administers these lands, which have been managed by the Minnesota Department of Natural Resources Division of Wildlife under a lease agreement since 1940. Agassiz NWR is the first point of contact for all Land Utilization Project management issues.

Refuge Vision

Agassiz NWR lies within the shallow depressional lake plains formed by the pre-historic Glacial Lake Agassiz. The refuge is located within the aspen parkland transitional zone between the tallgrass prairie to the west and northern forest to the east. Agassiz NWR comprises a diversity of plant and animal species, typical of ecotonal communities. Since the beginning of the 20th century, the lands within this area have been manipulated for agricultural purposes, which highly modified natural landscapes and ecosystem functions. Since its establishment, the refuge has been intensively managed for the benefit of migratory birds and other wildlife through the construction of dikes and water control structures.

Agassiz NWR and the surrounding area will be the premier natural resource of Marshall County and northwestern Minnesota. The Refuge and its seven-county management district, working with partners, will take a landscape approach to promote functional watersheds and connect natural areas. Refuge management programs and activities will emulate natural functions and processes of the different native habitats for optimal wildlife use. The resulting benefits will be showcased to demonstrate the compatibility of biological diversity, integrity, natural ecological processes and sustainable agriculture.

People will be attracted to the Refuge and northwestern Minnesota to view and enjoy the wonders of natural ecosystems. Visitors will have quality, wildlife-dependent experiences that provide

personal and societal benefits, such as a sense of peace and tranquility and support of a strong conservation ethic. Refuge staff, visitors and the community will understand and appreciate a well-functioning landscape and the cultural history of the area. This vision will be the catalyst to further strengthen a positive community-refuge relationship.

Purpose and Need for Plan

This draft CCP articulates the management direction for Agassiz NWR and its Management District for the next 15 years. It does not address Land Utilization Project lands. Through the development of goals, objectives, and strategies, this draft CCP describes how the Refuge and District also contribute to the overall mission of the National Wildlife Refuge System. Several legislative mandates within the National Wildlife Refuge System Improvement Act of 1997, and principles identified in “Fulfilling the Promise” (a strategic vision document for the Refuge System) have guided the development of this plan. These mandates and principles 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 Agassiz NWR and the RMD by:

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

Chapter 2: The Planning Process



The CCP for Agassiz NWR has been written with input and assistance from citizens, non-governmental conservation organizations (NGOs), and employees of tribal, state, and local agencies. The participation of these stakeholders is vital and all of their ideas have been valuable in determining the future direction of the Refuge and its Management District. Refuge and regional staff – indeed, the entire U.S. Fish and Wildlife Service – are grateful to all of those who have contributed time, expertise and ideas throughout the comprehensive conservation planning process. We appreciated the enthusiasm and commitment expressed by many for the lands and living resources administered by Agassiz NWR.

Internal Agency Scoping

Agassiz NWR's CCP planning process began in early October 2002 with a kickoff meeting involving Refuge staff, a regional planner from the USFWS Region 3 office in the Twin Cities, and a consultant under contract to assist in preparation of the CCP. The 12 participants in this "internal scoping" exercise reviewed the Agassiz NWR vision statement and goals, existing baseline resource data, planning documents and other Refuge information. In addition, the group identified a preliminary list of issues, concerns and opportunities facing the Refuge and RMD that would need to be addressed in the CCP.

A list of required CCP elements such as maps, photos, and GIS data layers was also developed at this meeting and during subsequent e-mail and telephone communications. Concurrently, the group studied federal and state mandates plus applicable local ordinances, regulations, and plans for their relevance to this planning effort. Finally, the group agreed to a process and sequence for obtaining public input and a tentative schedule for completion of the Agassiz NWR and Management District CCP. Public input was encouraged and obtained using several methods, including an open house, written comments during a public scoping period, a questionnaire, an issue-based focus group, and personal contacts. The local news

media attended the open house, conducted interviews with study team members, and published articles about the CCP planning process in the local Thief River Falls, Minnesota, newspaper.

Internal scoping continued with a meeting at the Regional Office in Fort Snelling, Minnesota in early December 2002. Ten staffers from Region 3, including supervisors, planners, and biologists covering wildlife/habitat and migratory birds joined Agassiz NWR's Refuge Manager for a discussion on the open house held in Thief River Falls on December 5, 2002, and a number of considerations related to the CCP.

Open House

On the evening of December 5, 2002, Agassiz NWR staff and Service planners welcomed the public to an open house and CCP/EA scoping meeting at the Heritage Center in Thief River Falls. About 30 individuals attended the meeting, most of whom were from Marshall County and all of whom were Minnesota residents. Attendees heard an overview of the CCP and National Environmental Policy Act (NEPA) processes and then were given the chance to address the gathering. Many speakers shared information about the area, issues they wanted to see addressed in the CCP, concerns, and their ideas as to how Agassiz NWR should be managed in the future. The following comments were made during the open house:

- # Refuge should allow bow-hunting.
- # Refuge should give flood control higher priority.
- # Refuge should carry out better weed control (e.g., Canadian thistle).
- # Refuge allows for adequate public use – it's open to a sufficient extent to see and appreciate resources.
- # Refuge should open more areas to public visitation.
- # Refuge should strive for better appearance around headquarters; mow more acres.
- # Refuge should have more food plots for game like ducks, geese and deer.
- # Refuge should improve maintenance of legal drainage ditches, which are clogged with weeds and/or vegetation on banks.
- # Refuge should lower pool level elevations; there should be less water and more upland habitat to benefit upland game in general.
- # Refuge should seek better cooperation with neighbors and work with surrounding landowners (e.g., road maintenance, water release, infrastructure).
- # Refuge should seek better cooperation and coordination with local governments, including counties, townships, and ditching authorities, in such matters as repair and works in legal drainage ditches.
- # Refuge should construct more control structures on upper reaches of the Refuge and diversion ditches upstream of the Refuge to the south side in the WMA, so as to reduce summer flooding.
- # Refuge should manage wildlife using biology/science instead of politics, to the maximum extent feasible.
- # Refuge should allow for cross-country skiing trails.
- # Refuge should increase payment in lieu of taxes to local government(s).
- # Refuge should allow fishing.
- # Refuge should modify dams or other water control structures to facilitate fish migration.
- # Bookstore in visitor center is asset for the Refuge.
- # Refuge should conduct more prescribed burning to enhance wildlife habitat.

Meeting attendees were also provided with a comment form and encouraged to fill it out and submit it that evening or mail at a later date. The comment form contained the following questions:

- # What do you think are the most important issues facing the Refuge?
- # How do you think these issues can be resolved?
- # Should Refuge habitats be managed any differently than they are today?



- # Are the types of use and visitation permitted and encouraged by the Refuge appropriate? # Any other comments you would like to make?

Those interested in making comments had until January 18, 2003, to submit this form. Any member of the public who wished to comment in writing also had until that date to send a letter. Comments could be sent by U.S. mail, e-mail, or via the Agassiz NWR planning website on the Internet. Approximately 40 comment forms and other written comments were submitted to the Refuge during the scoping process. These comments, concerns, and suggestions are summarized in Appendix J of this document.

Focus Group Meeting

On Saturday, January 18, 2003, a 1-day focus group or “technical working group” meeting was held at Northland Community and Technical College in Thief River Falls. The approximately 30 participants in this all-day event had the opportunity to discuss and explore in greater depth the various Refuge issues, goals, and opportunities in a relaxed, congenial setting. Refuge staff sent invitations to a number of stakeholders in the area. Individuals who signed up at the scoping

meeting on their own, and all members of the public were welcome, provided they were willing to commit an entire Saturday to helping plan the future of the Refuge.

Some participants signed up at the December 2002 open house and others notified Refuge management afterwards of their desire to participate. Representatives of the Red Lake Band of the Chippewa Tribe and the Minnesota DNR – both of which own large tracts of adjacent and nearby land on which they manage wildlife and habitat – participated in the meeting. A contractor for the Service facilitated the discussion. The following list of issues generated by the open house session and internal refuge and regional office scoping was used as a point of departure for discussion:

Habitat Management:

- # Loss of sedge meadow to cattail marsh
- # Drawdown frequency to provide shorebird habitat
- # Prairie restoration on old croplands
- # Invasive plant species (weed control)
- # Croplands (food plots)
- # Possible loss to wilderness habitat due to managed impoundments
- # Prescribed burning
- # Forest habitats
- # Commitment to wildlife/natural resources
- # Off-refuge involvement (e.g., corridor habitat along ditches and rivers, acquire easements/land acquisition related to flooding issues)

Water Management:

- # For waterfowl vs. non-game water species (e.g., shorebirds, colonial nesting waterbirds)
- # Flood control (inflows – outflows, pool levels, no flood control)
- # Retention of spring and summer flood waters by the Refuge.
- # Maintenance of drainage ditches

Wildlife Management:

- # Nuisance wildlife control
- # Non-game species
- # Threatened and endangered species

Public Use:

- # Deer hunting (e.g., bow, muzzle, take-a-kid)
- # Waterfowl hunting
- # Fishing
- # More trapping opportunities
- # Wildlife observation; fire tower and other viewing platforms
- # Miscellaneous forms of motorized and non-motorized recreation (e.g., hiking, bicycling, cross country skiing, canoeing)
- # Road network, auto tour route, parking
- # Visitor Center
- # Visitor access (increase, current level adequate, no access)
- # Other facilities
- # Appearance (well groomed vs. natural)
- # Better outreach (e.g., biological benefits and eco-tourism benefits of Refuge)
- # More environmental education with schools and local communities

Cultural Resources:

- # Interpretation of Mud Lake homesteads and CCC buildings
- # Tribal rights

At the outset of the meeting, there was a consensus within the group that due to the intractability of the political impasse over water management and water rights, which has lasted decades and which shows no sign of resolution in the foreseeable future, the focus group should not squander its limited time in debating this question extensively. Suggestions received by certain individuals during scoping that Agassiz NWR should be managed primarily as a flood control facility for the benefit of surrounding and downstream landowners contradicts the founding purpose of the Refuge and the spirit and mission of the National Wildlife Refuge System. For the interests of wildlife to be relegated to a secondary purpose of a national wildlife refuge or merely an incidental benefit of its presence would require Congressional or Presidential action.

Preparation, Publishing, Finalization and Implementation of the CCP

The Agassiz NWR CCP was prepared by a contractor with a great deal of input, review, and support from Refuge staff and the Service's Regional Office. The CCP was published in two phases and in accordance with the National Environmental Policy Act (NEPA). The Draft Environmental Assessment (Appendix A) presented a range of alternatives for future management and identified the preferred alternative, which is also the Draft CCP. The alternative that was selected has become the basis of the Final CCP. This document then, becomes the basis for guiding management on the Refuge and its Management District over the coming 15-year period. It will guide the development of more detailed step-down management plans for specific resource areas and it will underpin the annual budgeting process through Refuge Operating Needs System (RONS) and Maintenance Management System (MMS). Most importantly, it lays out the general approach to managing habitat, wildlife, and people at Agassiz NWR and its Management District that will direct day-to-day decision-making and actions.

The Draft CCP/EA was released for public review and comment on March 3, 2005. A Draft CCP/EA or a summary of the document was sent to more than 200 individuals, organizations, and local, state, and federal agencies and elected officials. An open house event was held on April 6 in Thief River Falls following release of the draft document. We received a total of 20 comment letters and e-mails during the 45-day review period. Appendix K of the CCP summarizes these comments and our responses. Several of the comments resulted in changes in the CCP.

Summary of Issues, Concerns and Opportunities

Habitat Management

We asked a wide range of people for their views on the issues, concerns and opportunities confronting Agassiz NWR. Citizens, non-governmental conservation organizations (NGOs), and employees of tribal, state, and local agencies all offered ideas. Refuge staff and staff from the Service's Regional Office in the Twin Cities were also asked to identify the issues and opportunities that they see for the Refuge. The following paragraphs summarize what we heard.

Loss of Sedge Meadow

Sedge meadow is a rare habitat type in Minnesota. Some people said that invasion by willow, reed canary

grass, and cattail is a problem for the sustainability of this resource on the Refuge. Individuals noted that prolonged high water contributes to invasion of the sedge zone by cattails. Present management is to lower water levels prior to fall burning of sedge meadow, as well as cutting 200-300 acres of willows in the winter. Some individuals believe that these practices are proving insufficient and net losses will continue to mount under the present approach.

While some said that a solution might be to spray with chemicals, it was suggested that it would be difficult if not impossible to find an herbicide with specificity for just willows and cattails. It was suggested that a longer dry period for each pool might reduce invasive plant species. Some people said that further monitoring and research are needed to determine whether continuing to expend scarce staff and budgetary resources on efforts to curb cattail and willow encroachment is worthwhile or whether it is ultimately a costly and futile fight against natural succession.

Individuals said that the timing or frequency of prescribed burns is important. It was suggested that multiple burns over a short time period might improve success.

The focus group identified three possible alternatives for dealing with this phenomenon:

- # Let it go;
- # Continue with present control measures;
- # Intensify actions (consider private contracts for cutting willow).

Drawdown Frequency to Provide Shorebird Habitat

Some people said that the Refuge is on the right track with its recent effort to experiment with the timing of the drawdowns as a way to provide shorebird habitat. On the other hand, some people said that the Refuge is already providing enough shorebird habitat. Others said that wet years assure that surrounding agricultural land is also providing habitat.

Prairie Restoration on Old Cropfields

In some cases, comments about prairie restoration on old cropfields took the form of questions. For example, some people wonder about the lack of naturally occurring big bluestem on Agassiz NWR and question whether it is related to soil pH or a high water table. Others question whether the area once included oak savanna habitat.

It was suggested that Refuge management prepare a cost/benefit analysis of prairie restoration on wet sites. While some people said that grasslands are beneficial for wildlife observation, particularly birding, others noted that native plant restoration on a wet site is more costly than restoration on upland prairie.

The kinds of prairie plants used in restoration also generated comments. Some people said that waterfowl nesting on cool-season grass fields could result in low nesting success because of higher predation rates.

Some people said that restoration should be “hands-off, gradual, and intense”. One strategy suggested was to leave old fields in crops for a few years and then plant in prairie, especially if the seed source is limited.

Invasive Plant Species

People cited leafy spurge and Canada thistle as invasive plants that are causing problems on the Refuge. It was noted that the Refuge is currently combatting both leafy spurge and Canada thistle with chemical and biological control agents. In the case of leafy spurge, the use of beetles is having limited success.

Other invasive, exotic or weedy species that were noted as concerns for the Refuge and that are not being controlled are hybrid cattail, reed canary grass, quackgrass, and cocklebur. Eurasian buckthorn has not been observed on the Refuge to date, but could become a problem in aspen uplands in the future. Some people said that purple loosestrife and spotted knotweed prevention is important for the Refuge. Other said that reed canary grass is expanding within the region.

The focus group suggested two alternatives for approaching the problem of invasive plants:

- # The present strategy, which is only partially stemming the tide of encroachment by invasive plant species; #
- A combination of intensified control, prevention, monitoring and education.

Croplands (Food Plots)

Agassiz NWR farms 170 acres (winter wheat, barley, oats, etc.) as lure crops and for wildlife observation. Six farm units provide two to three fields each. Some people said that these food plots are good bear and deer viewing areas. Others noted that farm units also serve as rendezvous areas for wolf pups. While the original justification for establishing food plots was to help control crop depredations by wildlife (especially waterfowl) on surrounding farmland, some people said that the effectiveness of food plots is unknown. Other people said that Refuge croplands do hold some local birds, especially prior to migrant birds arriving in the fall.

Some alternatives for croplands were suggested:

- # Maintain the existing configuration and acreage of croplands;
- # Discontinue croplands;
- # Expand the acreage of croplands;
- # Use cooperative farming.

Alteration of Wilderness Habitat Due to Managed Impoundments

Some people expressed concern that a die-off of spruce in the designated Wilderness area may be related to high-water conditions. Others suggested that the die-off could also be due to a rise in pH (salts). People suggested that ongoing research into the cause or causes of this die-off and monitoring throughout future high water periods needs to continue.

Prescribed Fire

Concern was expressed about some degree of controversy in the region about the appropriateness of using prescribed fire on the Refuge. Others said that in general, the surrounding community seems to understand the value of burning. Up to 25 percent of the Refuge has been burned annually, split between seasons in the spring and fall. Some people said that a higher burn frequency may not set back succession due to lower fuel loads. Alternatives suggested included:

- # Burn more acres;
- # Increase fall burns
- # Summer burn cattails;
- # Higher frequency of prescribed burning;
- # Less frequency of prescribed burning.

Forest Habitats

Agassiz NWR now has approximately 9,900 acres in aspen, spruce, oak, and ash. Some people suggested that, in general, the region had a more open landscape in the 1940-50s. Others question whether brushlands should be recognized as a desirable habitat type. Some people questioned whether wildlife and habitat diversity would benefit from more woodland or less woodland. Some people said that open grasslands and old fields would be lost if woodland acreage were to expand. It was suggested that Agassiz NWR designate some old-growth aspen for cavity-nesting birds and nesting Bald Eagles. It was noted that harvesting aspens during the early years of the Refuge virtually eliminated habitat for cavity-nesting birds.

Some people questioned whether the Refuge should reduce the area in water impoundments. It was noted that abandoning water impoundments in favor of forest would actually necessitate dike removal.

Some people said that one of the forest management issues facing Agassiz NWR is how much emphasis should be placed on restoring oak savanna at the expense of aspen woodlands.

Commitment to Wildlife/Natural Resources

Some individuals noted that the Refuge should not forget the wildlife-first mandate of the National Wildlife Refuge System.

Off-Refuge Involvement in Providing Habitat

Some people said that Agassiz NWR should coordinate efforts and communicate with local governments. Others said that potential road upgrades on the Refuge involve right-of-way issues. People said that the Refuge needs to continue dialog with county road authorities.

Water Management

Waterfowl Versus Non-game Water Species

Recent high water has had an impact on furbearers. However, some people suggested that there is no need to change water management on behalf of non-game water species.

Flood Control

Some people said that farmers on the west side of Agassiz NWR could benefit from small changes in water management. In the opinion of some people, a diversion ditch or a better (or repaired) outlet for the Refuge could prove to be a positive move. Analysis by flood control engineers has shown there would be little impact on downstream flooding from a diversion ditch or improved outlet. Some people said that Agassiz NWR staff should continue to participate in a comprehensive watershed management plan that brings together many diverse and sometimes conflicting parties and interests.

Maintenance of Drainage Ditches

Some individuals said that communication among Refuge management, local officials and neighbors is vital. Others suggested that the Refuge send a letter to local townships when the Refuge approves its annual water management plan. People also suggested that the Refuge work with Marshall County and Red Lake Watershed District.

Wildlife Management

Nuisance Wildlife Control

People noted that beaver do cause problems at culverts or ditches and that response time for beaver removal could be improved. The current procedure is for the Refuge to call upon trapping permit holders to concentrate in certain areas. Off-refuge, a bounty is paid by the county in problem ditches (which goes to half-price during trapping season) throughout the Refuge Management District.

Trapping Program

Currently the Refuge is divided into eight trapping units. Targeted species include beaver and muskrat that damage infrastructure, and predatory species like skunk and mink. Some people expressed a desire for more trapping opportunities, saying that trapping could possibly be expanded to include fisher and bobcat. Some people also suggested that extra incentives could be provided for trappers to bid on trapping units.

Threatened and Endangered Species

People enjoy seeing Bald Eagles, which are the most conspicuous and spectacular listed species that occurs at Agassiz NWR. Many expressed a desire for the continued protection of nesting eagles. Gray wolves, a controversial species for some people, appear to match their deer prey base. Two packs use the Refuge and adjacent lands. Some people encouraged the Refuge to continue monitoring the wolves.

Wildlife Diseases

Some people said that the CCP should address how Agassiz NWR will approach Chronic Wasting Disease (CWD) and West Nile Virus, two new, foreign wildlife diseases with implications for humans. It

was noted that Agassiz NWR will work with an interagency team on a foreign wildlife disease outbreak contingency plan.



Wildlife-dependent Recreation

Deer Hunting

The Refuge has one disabled-hunter blind. It received good use the first year but less use more recently. Some people said that a potential problem with hunting is that non-hunting visitors may not feel safe during hunting season, and thus stay away from the Refuge. People suggested alternative for deer hunting such as:

#Expansion beyond the 9-day deer season to include archery and muzzleloader hunts #No deer hunting at all.

Upland Game

Some people suggested that a ruffed grouse season and a rabbit season could also be held. While the Refuge does not contain large populations of upland game species, some people also suggested opening hunting to all upland game.

Waterfowl Hunting

At present, no waterfowl hunting is allowed on the Refuge. Some people said that if certain areas are opened for hunting, a “no motors allowed” policy would limit the number of hunters. People also said that a majority of the Refuge should remain closed because there are plenty of waterfowl hunting opportunities nearby. Others suggested that some areas could be opened on the Refuge perimeter, noting the Farmes pool

as a possibility. People also said that a retrieval zone around the Farms “firing line” could be expanded. On the other hand, others felt strongly that the Refuge should not be open to waterfowl hunting because it currently holds waterfowl and promotes waterfowl hunting in the surrounding area.

Fishing

Everyone agreed that the Refuge contains little or no gamefish habitat. One individual described Ditch 200 as an opportunity for fishing on the Refuge because it has a run of northern pike once in awhile. Others suggested that the Refuge consider allowing white sucker spearing during high water events.

Wildlife Observation: Fire Tower and Other Viewing Platforms

At present, the wildlife observation tower is closed due to liability concerns. The Refuge will try to keep the tower open, although safety rules may restrict access. Some people said that the Refuge should consider placing a new platform on the auto tour route. Others suggested building a marsh boardwalk. On the other hand, some people said that prescribed burning and flooding complicate placement of such a facility because it would be vulnerable to damage or destruction by fire and flood. Some people suggested that a dike or peninsula may be a better, more damage-resistant option. Some people questioned whether or not the Refuge should limit new visitor facilities to one region of the Refuge.

Miscellaneous Forms of Motorized and Non-motorized Recreation

People questioned whether or not the Refuge should allow visitors to canoe and camp at the Wilderness area. It was noted that no substantial changes are proposed for the existing Agassiz NWR road network, auto tour route, and parking locations. Some people suggested that the Refuge consider allowing cross-country skiing and snowshoeing as recreational uses on the Refuge.

Visitor Access

Some people suggested that the Refuge keep its northern boundary road open throughout the year. It is currently closed during hunting seasons.

Facilities, Appearance of Facilities

Some people said that the outdoor toilet facility near the visitor center should be made more visible. Others questioned whether landscaping around the visitor center should be natural or manicured.

Outreach, Environmental Education with Schools, etc.

Individuals said that outreach could be increased with the addition of a new staff member.

Environmental Education

It was suggested that the Refuge could improve on-site environmental education by updating the field lab to incorporate a wet lab and environmental education classroom.