Comprehensive Conservation Plan

Arrowwood National Wildlife Refuge

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Abbreviations

Administration Act	National Wildlife Refuge System Administration Act
AGNPS	agricultural nonpoint source (model)
CCC	Civilian Conservation Corps
CCP	comprehensive conservation plan
CFR	Code of Federal Regulations
cfs	cubic feet per second
DNC	dense nesting cover
EA	environmental assessment
EIS	environmental impact statement
EPA	Environmental Protection Agency
FMP	fire management plan
FWS	U.S. Fish and Wildlife Service
GS	general pay schedule
HMP	habitat management plan
HUA	hydrologic unit area
Improvement Act	National Wildlife Refuge System Improvement Act of 1997
IPM Plan	Integrated Pest Management Plan for the Arrowwood NWR Complex
JAKES	Juniors Acquiring Knowledge, Ethics & Skills
MMRE	Mainstream Missouri River ecosystem
NEPA	National Environmental Policy Act
NDGF	North Dakota Department of Game and Fish
NOA	notice of availability
NRCS	Natural Resources Conservation Service
NWR	national wildlife refuge
OWLS	outdoor wildlife learning site
PL	public law
Reclamation	Bureau of Reclamation
Refuge System	National Wildlife Refuge System
SAMMS	Service Asset Maintenance Management System
Service	U.S. Fish and Wildlife Service
SWG	state wildlife grant
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWA	North Dakota Unified Watershed Assessment
VOR	visual observation reading
WG	wage grade pay schedule
WMD	wetland management district
WPA	Works Progress Administration
WUI	wildland–urban interface

Summary

The U.S. Fish and Wildlife Service has developed this comprehensive conservation plan as the foundation for management and use of the Arrowwood National Wildlife Refuge in North Dakota. The purposes of the plan are as follows:

- to identify the role that the refuge will play in support of the mission of the National Wildlife Refuge System
- to provide guidance for management of refuge programs and activities during the next 15 years

This summary briefly describes the refuge, comprehensive conservation plan, and planning process.

The Refuge

The refuge was established in 1935 as a refuge and breeding ground for migratory birds and other wildlife. President Franklin D. Roosevelt signed Executive Order 7168 on September 4, 1935, "establishing Arrow-wood Migratory Waterfowl Refuge." Now known as Arrowwood National Wildlife Refuge, the 15,973-acre refuge is in east-central North Dakota. The refuge covers 14 miles of the James River Valley in Foster and Stutsman counties, approximately 30 miles north of Jamestown.

The purposes for the refuge, summarized here, are set out in the authorities for acquisition. Arrowwood National Wildlife Refuge was established for the following:

- use by migratory birds, with emphasis on waterfowl and other waterbirds
- the conservation of fish and wildlife resources
- use as an inviolate sanctuary, or for any other management purpose, for migratory birds. (Migratory Bird Conservation Act of 1929)
- a refuge and breeding ground for migratory birds and other wildlife (Executive Order 7168)

Habitat

The refuge lies on the Central Flyway migration corridor and is an important stopover for many species of birds as they journey north and south during annual migrations. Prairie grassland and wetland complex habitats at the refuge and surrounding private lands provide nesting and feeding habitat for waterfowl in the spring and summer. In addition, hundreds of thousands of waterfowl migrate through the area and use these wetlands in the spring and fall for feeding and resting.

The refuge contains approximately 6,000 acres of native prairie; 5,340 acres of seeded grasses; 3,850 acres of wetlands (420 acres of natural wetlands); 660 acres of wooded ravines and riparian woodlands; and 125 acres of planted trees including shelterbelts.

The prairie ecosystem, of which the refuge is a part, evolved under constantly changing conditions. Grazing by large herds of animals, trampling, fire, and drought —with varied timing and intensity—resulted in diverse plant and animal communities in various successional stages. Today, large herds of grazing animals no longer exist. Tracts of prairie have been broken into smaller pieces and new habitats have been introduced (including croplands, woodlands, and brush lands).

Many of the sensitive native plant communities are suppressed with nonnative plants including smooth brome, Kentucky bluegrass, or invasive plants such as leafy spurge and Canada thistle. However, these sites still contain native plant seed sources and dormant native plants with the potential for tremendous biological diversity. These grasslands provide important breeding habitat to a variety of ground-nesting birds, especially the declining grassland-dependent songbirds.

Approximately 3,430 acres of wetlands are in managed impoundments and pools. The remaining acres are either natural wetlands or instream wetlands created by low-head dikes on tributaries flowing into the refuge. Historically, the managed impoundments were naturally occurring riverine lakes; these lakes were modified to improve water management capabilities.

Donna Dewhurst/USFWS

The canvasback is a common duck at the refuge.

Administrative History

In the 1930s, the Civilian Conservation Corps developed refuge impoundments designed to store water rather than facilitate drawdowns and shallow water management.

The Flood Control Act of 1944 authorized construction of the Jamestown Dam, roughly 30 miles south of the refuge, in 1954. The purpose of the dam was to provide flood control for the city of Jamestown. The reservoir filled for the first time in 1965 and backed water onto the Arrowwood National Wildlife Refuge, preventing water management in most years. Several years later, operating levels of the reservoir were increased by 3 feet to accommodate recreation and to allow for the release of pollutant-flushing flows through Jamestown. This increased water level backed even more water onto the refuge and further eliminated water management options.

The Garrison Diversion Unit Reformulation Act of 1986 required mitigation for the adverse impacts to the refuge caused by the Garrison Diversion Unit project. An environmental impact statement, signed in 1997, analyzed the need to provide the refuge with water management capability to mitigate for high water levels imposed by the Jamestown Reservoir.

The preferred alternative selected from the environmental impact statement consisted of the following: downstream channel improvements; new water control structures; fish barriers; a bypass channel around Mud Lake, Jim Lake, and Depuy Marsh; a dike and water control structure at Stony Brook; and subimpoundments within Mud and Jim lakes. In addition, the alternative called for the reduction of the Jamestown Reservoir operating elevation by 1.8 feet. These features of the Arrowwood National Wildlife Refuge mitigation project are intended to mitigate past, present, and future impacts of the Jamestown Reservoir.

Visitor Services

Public use and recreation at the refuge includes the six priority wildlife-dependent uses: hunting, fishing, wildlife observation, photography, interpretation, and education. Hunters are allowed to pursue deer, upland game birds, cottontail rabbits, and fox. Fishing is allowed on all refuge impoundments; however, current fishing opportunities are temporary and sporadic due to the predominantly low water levels in managed impoundments. The auto tour route, the Warbler Woodland Watchable Wildlife Area, and an adjacent nature trail offer numerous wildlife-viewing opportunities. The entire refuge is open to walk-in access. Interpretation consists of refuge brochures, maps, and signs. In addition, the refuge offers tours and environmental education programs for school groups, scouts, and special events.

In addition, the refuge allows recreational trapping, commercial fishing for carp and bigmouth buffalo, recreational wild food gathering, and biking and horseback riding on designated trails.

Comprehensive Conservation Plan

The plan includes detailed objectives and strategies to carry out the vision and goals for the Arrowwood National Wildlife Refuge (described below).

Vision

The following vision describes what the refuge will be and what the Service plans to do. The vision is based primarily on the mission of the National Wildlife Refuge System and specific purposes of the refuge.

Provide quality habitat for threatened and endangered species, waterfowl, other migratory birds, and other wildlife in the Prairie Pothole Region of North Dakota. The refuge will provide an environment where a diversity of riparian, native prairie, grassland, and wetland habitats and their associated wildlife can be observed and explored. People will be able to learn about and appreciate the natural environment of the refuge and enjoy opportunities for wildlife-dependent recreation.

Goals

A goal is a descriptive, broad statement of desired future conditions that conveys a purpose, but does not define measurable units. Goals will direct work at carrying out the refuge's mandates and achieving the purposes.

These goals—derived from the purposes and vision for the refuge—characterize the contributions of Arrowwood National Wildlife Refuge to the National Wildlife Refuge System. The goals reflect the core mission of the U.S. Fish and Wildlife Service to protect fish, wildlife, and plant resources while providing compatible opportunities for the public to appreciate and enjoy the natural environment of the region.

Upland Goal

Provide a diversity of grassland types that emulate the range of natural variation characteristic of the Prairie Pothole Region to benefit trust resources including waterfowl, grassland birds, and songbirds.

Wetland Goal

Provide a diversity of wetland types that emulate the range of natural variation characteristic of the Prairie Pothole Region to benefit threatened and endangered species, waterfowl, shorebirds, wading birds, and other wetland birds.

Visitor Services Goal

Visitors of all abilities will enjoy a refuge visit and increase their knowledge and appreciation of the prairie ecosystem and the refuge's history by participating in compatible wildlife-dependent recreation.

Outcomes of the Plan

Management actions in this CCP emphasize wildlife and habitat management for migratory birds and species of concern. Maximized biological potential for wetland and upland habitats at the refuge will support a well-balanced and diverse flora and fauna representative of the Prairie Pothole Region. The Arrowwood National Wildlife Refuge mitigation project will be used to achieve wetland habitat objectives.

A science-based monitoring program will be developed as part of the habitat management plan (a step-down plan) and carried out to monitor the responses of habitat and wildlife populations to management activities.

USFWS

Arrowwood Lake.

A plan to improve water quality entering the refuge and reduce peak flows in the upper James River watershed during spring runoff and summer rainfall events will be prepared. The watershed management component will include working closely with private landowners through the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program and other federal, state, and private conservation programs. The focus will be to protect and restore wetlands and grasslands, and reduce the impacts on water quality from cropland and livestock operations. Improving the health of the upper James River watershed will not only benefit wildlife habitat in the watershed and at the refuge, it will also benefit Jamestown Reservoir and all downstream users.

Public use will be enhanced with the improvement and expansion of wildlife-dependent recreation. Opportunities to increase hunting and fishing will be reviewed and facilities constructed as funding becomes available. Refuge-specific regulations regarding access into the refuge for wildlife observation, photography, and other wildlife-dependent recreational uses will be clarified and, where appropriate, modified to eliminate or minimize potential conflicts between refuge user groups.

In addition to hunting and fishing, new facilities and programs will be developed to enhance wildlife observation, photography, environmental education, and interpretation.

Planning Process

The comprehensive conservation planning process is a series of steps that, along with environmental analysis and documentation, are conducted simultaneously. The U.S. Fish and Wildlife Service engaged the public in the planning process to provide a forum for ideas and issues to be shared, reviewed, and evaluated among agency staff and the public.

Based on the results of the planning process, the following decisions have been made by the U.S. Fish and Wildlife Service's regional director for region 6:

- the type and extent of management and public access that will occur on the Arrowwood National Wildlife Refuge
- whether or not the management and public access on the Arrowwood National Wildlife Refuge will have a significant impact on the quality of the human environment

Through the environmental analysis process, the Service selected as the preferred alternative for the final plan, alternative 3 from the environmental assessment published February 2007.

Implementation of the comprehensive conservation plan will be monitored throughout its 15-year effective period (2007–2022). The U.S. Fish and Wildlife Service will annually monitor accomplishment of plan objectives. The objectives will be examined at a minimum of every 5 years to determine if revisions, additions, or deletions are necessary.