

Draft Comprehensive Conservation Plan and Environmental Assessment

Sand Lake National Wildlife Refuge

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Prepared by the U.S. Fish and Wildlife Service

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Summary

This is a summary of the environmental assessment (EA) that evaluates alternatives for management of the Sand Lake National Wildlife Refuge, South Dakota. The draft CCP for the refuge is described in alternative 3 of the EA and is the proposed action of the U.S. Fish and Wildlife Service.

THE HEART OF THE PRAIRIE

The Sand Lake National Wildlife Refuge was established in the mid-1930s as a refuge and breeding ground for migratory birds and other wildlife. The 21,498-acre refuge lies in the James River basin within Brown County, South Dakota. This northeastern area of South Dakota is in the heart of the prairie-pothole region of the northern Great Plains and plays a major role for migratory birds.

The refuge has been designated as a Globally Important Bird Area and a Wetland of International Importance. The refuge supports the largest nesting colony of Franklin's gulls in the world, along with thousands of snow geese and other waterfowl, white pelicans, shorebirds, and colonial-nesting birds.



American Avocet

The occurrence of 48 species of mammals illustrates the importance of the area for nongame, as well as game species such as white-tailed deer. Despite the

frequent occurrence of adverse conditions, the James River maintains a substantial fish population including 60 species.

HABITAT

The refuge's nutrient-laden waters are contained in 11,450 acres of marsh and open water. Dams form the two main bodies of water—Mud and Sand lakes.

Most of the more than 8,000 acres of grassland is infested with invasive plant species including Canada thistle, leafy spurge, Russian olive, and wormwood sage.

Of the estimated 424 acres of woodlands, most occur as deteriorated shelterbelts planted by the Civilian Conservation Corps (CCC) in the late 1930s to control wind erosion and provide wildlife habitat. Historically, woody vegetation occurred along riparian corridors and around some wetlands.

CULTURAL RESOURCES

Although there are no known prehistoric resources on the refuge, documented occupation of the general area spans a 10,000-year period.

The refuge contains clear ties to the Depression-era period based on the original landscape design and presence of buildings built by the CCC. The focus of many CCC projects was to preserve water in ponds, link channels, and build habitat islands for migratory birds.

PUBLIC USE

Each year, about 50,000 people recreate at the refuge. Areas open to visitors include a small visitor area, a 15-mile auto tour route with a viewing platform, a 20-mile loop road, an observation tower, and two day use areas.

Hunting for waterfowl, white-tailed deer, ring-necked pheasant, sharp-tailed grouse, and gray partridge is popular on the refuge. Fishing is offered year-round.

THE PLANNING PROCESS

The CCP process consists of a series of steps including environmental analysis. Public and partner involvement are important throughout the process. Management alternatives are developed to meet the

purposes, vision, and goals of the refuge. Implementation of the CCP will be monitored throughout its 15-year effective period.

ISSUES

Public scoping initiated in 2001, along with refuge information, indicated that there are four major issues regarding refuge management, which are summarized below.

WILDLIFE AND HABITAT

The quality of upland grassland habitats is important for providing the needs of migratory birds and meeting the establishment purposes of the refuge. Prior to the refuge's establishment, the native prairie within the vicinity of Sand Lake National Wildlife Refuge was almost entirely broken up and converted to cropland.

Refuge users want a great diversity of wildlife, including game species, supported by a variety of habitats. Waterfowl and deer are important recreational resources. The farm program on the refuge helps maintain populations of white-tailed deer and pheasant. Some refuge neighbors are losing crops of corn and alfalfa to foraging deer.

WATER MANAGEMENT

The refuge must use, maintain, and protect its water rights for the use of James River water. Control of water levels on the refuge to manage wetlands is extremely dependent on river flows. Demands on the water resources of the James River require collaboration between many stakeholders.



The water cycle affects the wildlife and the fishery and subsequent recreational opportunities. There was some public concern that water management for waterfowl may have a detrimental impact on the fishery.

Water levels on the refuge may affect water tables on neighboring lands. Salt is surfacing on lands within Brown County.

PUBLIC USE

Recreational opportunities on the refuge and the James River are very important to local residents. There is public support for an education center. There is some public interest in camping and recreational trapping.

Hunting is a priority public use, when determined compatible with the refuge's purposes. Hunting, especially of deer, waterfowl, and pheasant, is very popular on the refuge.

People want more fishing opportunities, but the ability of the refuge to provide fishing that is compatible with management for migratory wetland birds is very limited.

INVASIVE PLANTS

Invasive plants, especially Canada thistle, are dominating plant communities and impacting habitats in some areas. Without intensive management, the refuge would become a sea of smooth brome and Canada thistle, incapable of providing habitat for a diversity of grassland-dependent wildlife.

Neighbors view the refuge as a source of invasive plant expansion onto their lands.

Chemicals used for control are of concern from the standpoint of environmental contamination and negative impacts on desirable plant species.

THE FUTURE OF THE REFUGE

The issues, along with resource conditions, were important considerations during the development of the vision and goals for the Sand Lake National Wildlife Refuge.

THE REFUGE VISION

Provide habitat for the production, maintenance, and basic life requirements for threatened and endangered species, migratory birds, and other wildlife species.

Promote the natural biological diversity of the region through preservation, management, and enhancement of refuge lands and waters.

Provide the public with the opportunity for wildlife-dependent recreation and the enjoyment and appreciation of America's wildlife resources.

GOALS

These goals were developed to meet the refuge vision.

BIOLOGICAL DIVERSITY GOAL

Promote the natural biological diversity of the area and, through management of refuge habitats, provide for the greatest number of native fauna and flora species within the capabilities of the Sand Lake National Wildlife Refuge.

Threatened and Endangered Species Subgoal:

Provide for the protection and welfare of any threatened or endangered plants and animals that may occur on the refuge.

Waterfowl Resources Subgoal: Provide sufficient habitat (wetlands and grasslands) for the production and maintenance of waterfowl species.

[Addressed only in alternative 1.]

Waterfowl and Grassland-nesting Birds Subgoal:

Provide sufficient habitat (wetlands and grasslands) for the production and maintenance of waterfowl and grassland-nesting, nongame bird species.

[Addressed only in alternatives 2 and 3.]

Colonial Birds Subgoal: Provide and manage wetland habitats as nesting areas for the tremendous variety of colonial bird species using the refuge.

Resident Wildlife Subgoal: Contribute to habitat requirements for regional populations of resident wildlife including fish, reptiles, amphibians, mammals, and nonmigratory birds.

Grassland Habitat Subgoal: Restore, maintain, and provide quality habitat for the life requirements of a diversity of migratory birds and other wildlife species.

Wetland Habitat Subgoal: Maintain a diversity of quality wetland habitat that meets the needs of wetland-dependent wildlife species.

WILDLIFE-DEPENDENT RECREATIONAL USE GOAL

Provide opportunities for quality, wildlife-dependent recreation for visitors to Sand Lake National Wildlife Refuge.

Consumptive Use Subgoal: Provide wildlife-dependent, consumptive, recreational opportunities that are compatible with refuge purposes and contribute to a quality outdoor hunting or fishing experience.

Nonconsumptive Use Subgoal: Provide wildlife-dependent, compatible, nonconsumptive, recreational activities on the refuge that increase public understanding and appreciation of wildlife and its conservation.

PUBLIC EDUCATION AND OUTREACH GOAL

Provide wildlife- and wildland-viewing opportunities for the public to enjoy and, through education and outreach, encourage them to gain a greater understanding and appreciation of national wildlife refuges and wildlife resources in general.



A school group “dip-nets” for invertebrates during a field trip.

USFWS

MANAGEMENT ALTERNATIVES

The restoration of a historical, well-functioning riverine system and provision of quality habitat for grassland-dependent birds were the key factors driving development of the alternatives.

ACTIONS COMMON TO ALL ALTERNATIVES

Fire management would be used to protect life, property, and other resources from wildfire by safely suppressing all wildfires on the refuge. Prescribed fire would be used for habitat management, as well as for protection of property through fuel reduction.

Recreational opportunities would include wildlife-dependent and wildlife-compatible uses legislated by Congress and outlined in the National Wildlife Refuge System Improvement Act of 1997—hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation. Hiking has also been deemed a compatible use during limited times of the year.

The building of an education center would allow visitors a quality experience and provide a focus point for public use including education.

ALTERNATIVE 1

CURRENT MANAGEMENT—NO ACTION

Current management would continue and would not involve extensive restoration of habitat or improvements to roads and facilities.

Management tools such as burning, farming, mowing, grazing, and herbicides would be used to maintain the quality of grassland habitat for upland-nesting waterfowl. Shelterbelt woodlands would die out, which would benefit grassland-nesting birds while decreasing species of migratory birds that use fringes.

Cropland would be maintained to control invasive plants and to provide food for resident wildlife such as deer and pheasant. The extent of invasive plant infestation may increase or decrease, depending on environmental conditions. Using herbicides would reduce the quality of grasslands, and may spread persistent chemicals into the environment.

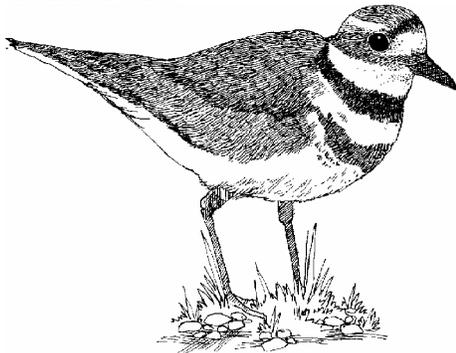
Sedimentation rates near the Mud Lake dike are expected to remain elevated, thereby continuing to degrade the lake's wetland functions. Reduced invertebrate production may impact wetland productivity, as well as limit a major food source for waterfowl.

All hunting and fishing seasons would continue as presently managed.

ALTERNATIVE 2

MAXIMIZE BIOLOGICAL POTENTIAL FOR GRASSLAND-NESTING BIRDS

There would be intense management of upland habitat to maximize numbers of migratory birds. The amount of grassland habitat would be maximized by the elimination of croplands, decreased wetland acreage, and the elimination of shelterbelts.



Killdeer
© Cindie Brunner

Grassland-dependent birds would benefit from increased grassland. The number of woodland- and edge-dependent species would be reduced. With the elimination of all cropland, deer depredation on neighboring crops may increase.

Sedimentation rates in wetlands would decline with the removal or breaching of the dikes on Mud and Sand lakes, resulting in long-term benefits to water quality. Invasive plants might increase due to lower water levels. The diversity of wetland-dependent species would decline. Use of the refuge by

waterfowl and overwater-nesting colonial birds would decline.

Conflicts between human and bird activities would be moderated through restriction or elimination of nearly all spring and summer recreational use and some fall recreational use of the James River within the refuge.

Accessibility of deer and upland game to hunters would likely decrease. Migrating waterfowl may pass through the refuge more quickly during the fall. Hunter satisfaction may be lowered as harvest opportunities decrease.

Fall and winter fishing would be allowed. Spring and summer fishing would be eliminated to avoid direct conflicts with nesting migratory birds.

ALTERNATIVE 3

INTEGRATED MANAGEMENT—PROPOSED ACTION

This is the draft CCP for the refuge, which maximizes the biological potential for migratory birds and finds a balance with reducing cropland, while ensuring depredation is minimized. The vegetative diversity of grasslands would be greatly enhanced by reseeding for native plants or rejuvenated dense nesting cover. Some shelterbelts, isolated trees, and invading Russian olives would be removed.

The five subimpoundments would be managed as shallow-water wetlands for waterfowl breeding pairs and broods, nesting black terns and pied-billed grebes, and foraging water birds and shorebirds. The ability to cycle vegetation and create interspersed cover and water through current water level manipulations would be hindered. Reduced invertebrate production may impact wetland productivity, as well as limit a major food source for waterfowl.

Watershed-level conservation efforts through partnerships may result in a long-term reduction of sediment entering the James River and refuge.

Cropland acreage would be reduced. The size and location of remaining cropland would be based on the need to control invasive plants, especially Canada thistle, and would be coordinated with the South Dakota Department of Game, Fish and Parks (SDGFP) to address resident wildlife issues. Canada thistle would be much more contained than it is currently, reducing the potential for a seed source to invade adjacent or downstream private lands.

All hunting and fishing seasons would continue as presently managed. Support facilities would be improved.

Wildlife-dependent recreational and educational activities would be expanded and improved on- and off-refuge.

