



NORTH DAKOTA

2023-2027 STATE COMPREHENSIVE OUTDOOR RECREATION PLAN

WETLANDS PRIORITIES

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The mission of the North Dakota Parks and Recreation Department is to offer a diversity of recreation opportunities and sustainably manage resources.

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WETLANDS PRIORITIES

OVERVIEW

Wetlands Priorities is a companion publication to the 2023-2027 North Dakota State Comprehensive Outdoor Recreation Plan (SCORP) prepared by the North Dakota Parks and Recreation Department. It was financed in part by a planning grant from the National Park Service, U.S. Department of the Interior, under the provisions of the Land and Water Conservation Fund (LWCF) Act of 1967 (PL 88-578, as amended), with additional funding provided by the Recreational Trails Program and the state of North Dakota.

The U.S. Congress enacted the Emergency Wetlands Resources Act of 1986 to protect and promote the conservation of the nation's wetlands. The act amends the Land and Water Conservation Fund (LWCF) Act to require each state's State Comprehensive Outdoor Recreation Plan (SCORP) to specifically address wetlands and to:

1. Be consistent with the National Wetlands Priority Conservation Plan, prepared by the U.S. Fish and Wildlife Service;
2. Provide evidence of consultation with the state agency responsible for fish and wildlife resources (North Dakota Game and Fish Department);
3. Contain a listing of those wetland types which should receive priority for acquisition; and
4. Consider outdoor recreation opportunities associated with its wetlands resources for meeting the state's public outdoor recreation needs.¹

NORTH DAKOTA WETLANDS

More than two million acres of wetlands are estimated to be located across North Dakota, with many areas experiencing densities of more than 150 wetlands per square mile.²

The North Dakota Game and Fish Department notes the wetlands found in North Dakota serve a variety of important functions that benefit the state including providing water storage, water quality improvement, wildlife and plant habitat, and ground water infiltration, as well as serving as a natural means of flood and erosion control. The state's wetlands also provide habitats that supply significant recreational and commercial benefits and serve to enhance the state's economy and promote a variety of recreational opportunities.

Located within 300,000 square miles of prairies in the north-central United States and south-central Canada, prairie potholes are seasonal or permanent water-holding depressions of glacial origin that provide the most productive habitat for waterfowl in North America.³ Many of these potholes are surrounded by large expanses of tallgrass and midgrass prairie that together make them an important breeding and migratory area for up to 70 wetland dependent migratory bird species, which utilize North Dakota wetlands when migrating.⁴ The Prairie Pothole Region, located in North Dakota in a region north and east of the Missouri River, is essential for wildlife habitats, biological diversity and water quality, and is ideal land for both ranching and agriculture.

According to the U.S. Geological Survey, wetlands once covered 4.9 million acres of North Dakota or 11 percent of the state. Acreage of wetlands decreased significantly by the 1980s, with only 45 percent of wetlands remaining. Additionally, more than 50,000 basins were lost due to agricultural drainage, energy production, urbanization and other factors from 1997 to 2009.⁵

The following definition of wetlands has been adopted by the U.S. Fish and Wildlife Service: *Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.*

Descriptions of the most common types of wetlands found in North Dakota are included below:

Lacustrine Wetlands

Wetlands and deepwater habitats with all of the following characteristics: (1) situated in a topographic depression or a dammed river channel and (2) lacking trees, shrubs, persistent emergents, emergent mosses or lichen with greater than 30 percent areal coverage.

Riverine Wetlands

Wetlands and deepwater habitats contained within a channel, with the following exception: wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens. A channel is an open

conduit either naturally or artificially created that periodically or continuously contains moving water or which forms a connecting link between two bodies of standing water.

Palustrine Wetlands

All nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses or lichens. These include the vegetated wetlands traditionally called marshes, swamps, sloughs, bogs, fens and prairies. It also includes the small, shallow, permanent or intermittent water bodies often called ponds.⁶

An overview of North Dakota's wetlands is provided in this report, which focuses on the type of wetland classifications in the state and the various programs designed to create, restore or enhance wetlands across the state and nation. Also addressed are the recreation and economic benefits gained from wetlands and the continued threats to wetlands in North Dakota.

Wetlands also contribute to the national, state and local economies by promoting recreational activities, such as hunting and fishing, producing resources and providing other benefits such as pollution control and flood protection.⁷

Hunting is a particularly popular recreation opportunity which utilizes the state's wetland, drawing 82,000 people into the state and accounting for 796,000 hunting days per year.⁸ A study commissioned by the North Dakota Game and Fish Department and completed by North Dakota State University of the 2017-2018 hunting and fishing seasons demonstrated the economic impact of these activities in the state. Gross business volume, direct and secondary effects, was estimated at \$2.1 billion, and hunting and fishing activities were estimated to generate \$48.2 million in general state tax collections and support more than 3,200 full-time equivalent jobs.⁹

BENEFITS OF WETLANDS

Recreational Opportunities and Economic Benefits

Wetlands provide a wide range of recreational activities, including swimming, canoeing, fishing, hunting, boating, ice skating and water-skiing. In addition, activities such as hiking, photography, bird watching and education often focus on wetland areas and species.

Healthy Habitats and Ecosystems

According to the U.S. Environmental Protection Agency (EPA), wetlands are considered “biological supermarkets” that produce a substantial amount of biodiversity and are ideal environments for the development of organisms that make up the basis of the food web. Wetlands are the most productive and dynamic biome system in the world, producing food, water and shelter for birds, mammals, plants, insects, fish, reptiles and other species that depend on the ecosystem.

Wetlands not only create healthy habitats but are also vital in other ecologically important functions that can prevent algae blooms, dead zones and fish kills, reducing the amount of environmental health problems that occur. In fact, wetlands can reduce the amount of carbon dioxide released into the atmosphere through storing it in live and preserved (peat) plant biomass.¹⁰ Wetlands play an important role within the hydrologic cycle through its continued receiving, storage and slow release of water. According to the North Dakota Game and Fish Department, wetlands are low maintenance areas in comparison to other habitats in regards to conservation.

Species of Conservation Priority Dependent on Wetlands in North Dakota¹¹

Bald Eagle (*Haliaeetus leucocephalus*)

Northern Harrier (*Circus cyaneus*)

Whooping Crane (*Grus americana*)

Piping Plover (*Charadrius melodus*)

Upland Sandpiper (*Bartramia longicauda*)

Long-billed Curlew (*Numenius americanus*)

River Otter (*Lontra canadensis*)

Snapping Turtle (*Chelydra serpentina*)

Monarch Butterfly (*Danaus plexippus*)



Water Quality, Storage and Flood Control

According to the EPA, wetlands are extremely valuable in improving water quality by acting as a natural sponge or tub and intercepting surface runoff and removing or retaining inorganic nutrients, processing organic wastes and reducing suspended sediments before it reaches rivers, streams and lakes.

Wetlands help control floodwater by storing excess water during periods of heavy precipitation, with an acre of wetlands storing 1 to 1.5 million gallons of floodwater. However, wetlands' ability to store floodwaters is crippled when filled or altered,¹² which is why conversion and draining can be especially detrimental.

THREATS TO WETLANDS

Agricultural and Hydrologic Alterations

A major threat to wetlands located in North Dakota is the conversion of wetlands into croplands. According to the 2015 *North Dakota State Wildlife Action Plan*, it is estimated more than 50 percent of prairie and wetlands located in North Dakota have been plowed, drained, leveled or filled





with materials. With the continued growth of agricultural production and technological advances, these detriments continue to this important natural resource in North Dakota, causing increased soil erosion and sedimentation movement, and continuing the increased use of pesticides, fertilizers and other chemicals.

According to the EPA, key functions such as soil chemistry and plant and animal communities can be significantly altered if hydrologic alterations occur in wetlands. Common hydrological alterations that occur are tile drainage for agricultural use; stream channelization for navigation, development and flood control; diking and damming to form ponds and lakes; and the diversion of flow to or from wetlands.¹³ According to the North Dakota Natural Resource Trust, other common wetland alterations occurring in North Dakota include open ditch draining, filling wetlands with materials such as soil and rocks, and the leveling of wetlands to facilitate cropping. Wetlands in the Red River, James River, Sheyenne River, Missouri River, and Mouse River Basins in North Dakota are particularly threatened by flood control methods that are utilized in these regions most impacted by flooding in the state.

Energy Production and Mining

Oil and gas production in the state of North Dakota fell in recent years but maintained an average of 476 million barrels produced annually between 2018 and 2020.¹⁴ This continued level of production can put added pressure on already sensitive wetlands through the conversion of wetlands into well pads and field or production facilities that can result in fragmentation that can affect wildlife and migratory birds. The dewatering of wetlands and lakes for water for hydraulic fracturing, inadequate reclamation and disturbances that can proliferate noxious or invasive weeds and pollution can also threaten wetlands across North Dakota.¹⁵

Urbanization

From 2010 to 2020, North Dakota's population grew by 15.8 percent to just over 779,000 people,¹⁶ with a continued trend of individuals migrating to expanding urban areas of the state. These areas of expansion sometimes include wetlands, which are often altered for residential, commercial or industrial development, which creates added pressure on the state's wetlands.¹⁷

WETLANDS PROTECTION AND MANAGEMENT

Wetlands protection and management are important to the preservation and restoration of these valuable habitats in North Dakota. The cooperation of federal, state and local governments, private organizations and individuals are imperative in recognizing and addressing the need for wetland protection and management and developing the programs to preserve these important natural resources. According to the *U.S. Fish and Wildlife Services' National Wetlands Priority Conservation Plan*, priority consideration for the acquisition of wetlands on the federal level will be given to:

1. Wetland types that are rare or have declined within an ecoregion,
2. Wetland sites subject to identifiable threat of loss or degradation and
3. Wetland sites with diverse and important functions and values.¹⁸

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Wetlands Protection Programs

Many wetlands protection programs are available in North Dakota, which provide opportunity for landowners and conservation-minded organizations, groups, and individuals to protect and enhance these valuable resources.

The following is a list of the agencies and organizations offering wetlands restoration, enhancement and protection programs in North Dakota.

U.S. Fish and Wildlife Service

- National Wildlife Refuges
- Wetland Management Districts
- Waterfowl Production Areas
- Partners for Fish and Wildlife Programs
- Wetland and Grassland Easement Programs

U.S. Department of Agriculture: Natural Resources Conservation Service and Farm Bill Programs

- Conservation Stewardship Program
- Agricultural Conservation Easement Program
- Environmental Quality Incentives Program – Wetland Pilot Program
- Wetland Reserve Easement Program
- Watershed and Flood Prevention Operations Program

U.S. Department of Agriculture: Farm Services Agency Programs

- Farmable Wetlands Program
- CRP Program

North American Wetlands Conservation Act (NAWCA)

NAWCA grants have played an instrumental role in the conservation of wetlands in North Dakota. The non-regulatory incentive-based, voluntary program stimulates public-private partnerships to protect, restore and manage wetland habitats.

With a variety of recreational, biological and economic benefits, wetlands serve as an important natural resource in North Dakota. Through a growing focus on numerous wetlands protection programs, North Dakota will continue its efforts to alleviate threats to the wetlands that remain of vital importance to the future of the state.

U.S. Army Corps of Engineers

- Clean Water Act, Section 404 Regulatory Program

Delta Waterfowl

- Adopt-A-Pothole Program

Ducks Unlimited

- Conservation Easements
- Water Resource Program
- Wetland Mitigation

The Nature Conservancy

North Dakota Parks and Recreation Department

- Natural Areas Registry Program
- State Nature Preserve Program

North Dakota Department of Agriculture

- Pesticide Water Quality Program

North Dakota Game and Fish Department

- Private Land Initiative Program: Conservation PLOTS (Private Land Open To Sportsmen) Program
- Meadowlark Initiative: Prairie Wetlands

North Dakota Natural Resource Trust

- Wetland Creation and Livestock Dams Programs
- Long-Term/Permanent Land Protection Programs
- Wetland Development Programs

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