

NORTH DAKOTA

State Comprehensive Outdoor Recreation Plan

WETLANDS PRIORITIES | 2018-2022





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The mission of the North Dakota Parks and Recreation Department is to provide and enhance outdoor recreation opportunities through diverse parks and programs that conserve the state's natural diversity.

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OVERVIEW

Wetlands Priorities is a companion publication to the *2018-2022 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

There are estimated to be more than two million acres of wetlands located across North Dakota, with many areas having densities of more than 150 wetlands per square

mile.² According to the North Dakota Game and Fish Department, wetlands have many important functions that benefit the state, such as 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. In addition, the habitats provided by the state's wetlands supply significant recreational and commercial benefits that 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. From 1997 to 2009, more than 50,000 basins were lost due to agricultural drainage, energy production, urbanization and other factors.⁵

This report provides an overview of the state's wetlands, focusing on the type of wetland classifications in North Dakota and the various programs designed to create, restore or enhance wetlands across the state and nation. In addition, recreation and economic benefits gained from wetlands and the continued threats to wetlands are addressed.

WETLANDS CLASSIFICATION

The U.S. Fish and Wildlife Service has adopted the following definition of wetlands: *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.*

The most common types of wetlands found in North Dakota are described 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, bogs, ferns and prairies. It also includes the small, shallow, permanent or intermittent water bodies often called ponds.⁶

BENEFITS OF WETLANDS

Recreational Opportunities and Economic Benefits

There is a wide range of recreational activities that wetlands provide, 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.

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, drawing 82,000 people into the state and accounting for 796,000 hunting days per year. Hunters spend \$148 million annually in North Dakota and support more than 2,200 jobs. The total economic impact of hunting in the state is \$199 million.⁸

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 produce 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.⁹ 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 Dakota¹⁰

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.

During periods of heavy precipitation, wetlands help control floodwater by storing excess water, with an acre of wetlands storing 1 to 1.5 million gallons of floodwater. However, wetlands' ability to store floodwaters is crippled when they are filled or altered,¹¹ which is why conversion and draining can be especially detrimental.

THREATS TO WETLANDS

Agricultural and Hydrologic Alterations

Conversion of wetlands into croplands is a major threat to the wetlands located in North Dakota. 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 or drained. With growing agricultural production and technological advances, an increase in soil erosion and sedimentation movement and an increase in the use of pesticides, fertilizers and other chemicals can be detrimental toward wetlands.

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.¹² Flood control methods in North Dakota can be threatening to wetlands that occur in regions that can be most impacted by flooding: the Red River, James River, Sheyenne River, Missouri River and Mouse River basins.

Energy Production and Mining

Oil and gas production in the state of North Dakota has increased 480 percent, from 170,000 barrels annual average daily production in 2008 to just over 1,000,000 barrels annual average daily production in 2016.¹³ This increase 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.¹⁴

Urbanization

From 2010 to 2016, North Dakota's population grew by 12.7 percent to just over 750,000 people,¹⁵ with a continued trend of individuals migrating to expanding urban areas of the state. Sometimes these areas include wetlands, which are often altered for residential, commercial or industrial development and thus put added pressure on wetlands in North Dakota.¹⁶

WETLANDS PROTECTION AND MANAGEMENT

Wetlands protection and management are important to the preservation and restoration of these valuable habitats in North Dakota. These efforts would not be possible without the cooperation of federal, state and local governments, private organizations and individuals in recognizing 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.¹⁷

Highest Priority Wetland to Conserve in North Dakota¹⁸

Small, shallow Palustrine Wetlands – threatened in the Prairie Pothole Region

Wetlands Protection Programs

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

The table below is an example of the accomplishments from the North Dakota North American Wetlands Conservation Act (NAWCA) that supports protection of the state's wetlands.

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
- Agricultural Conservation Easement Program
- Partners for Fish and Wildlife Programs

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

- Conservation Stewardship Program
- Environmental Quality Incentives Program
- Emergency Watershed Protection Program
- Watershed and Flood Prevention Operations Program

U.S. Army Corps of Engineers

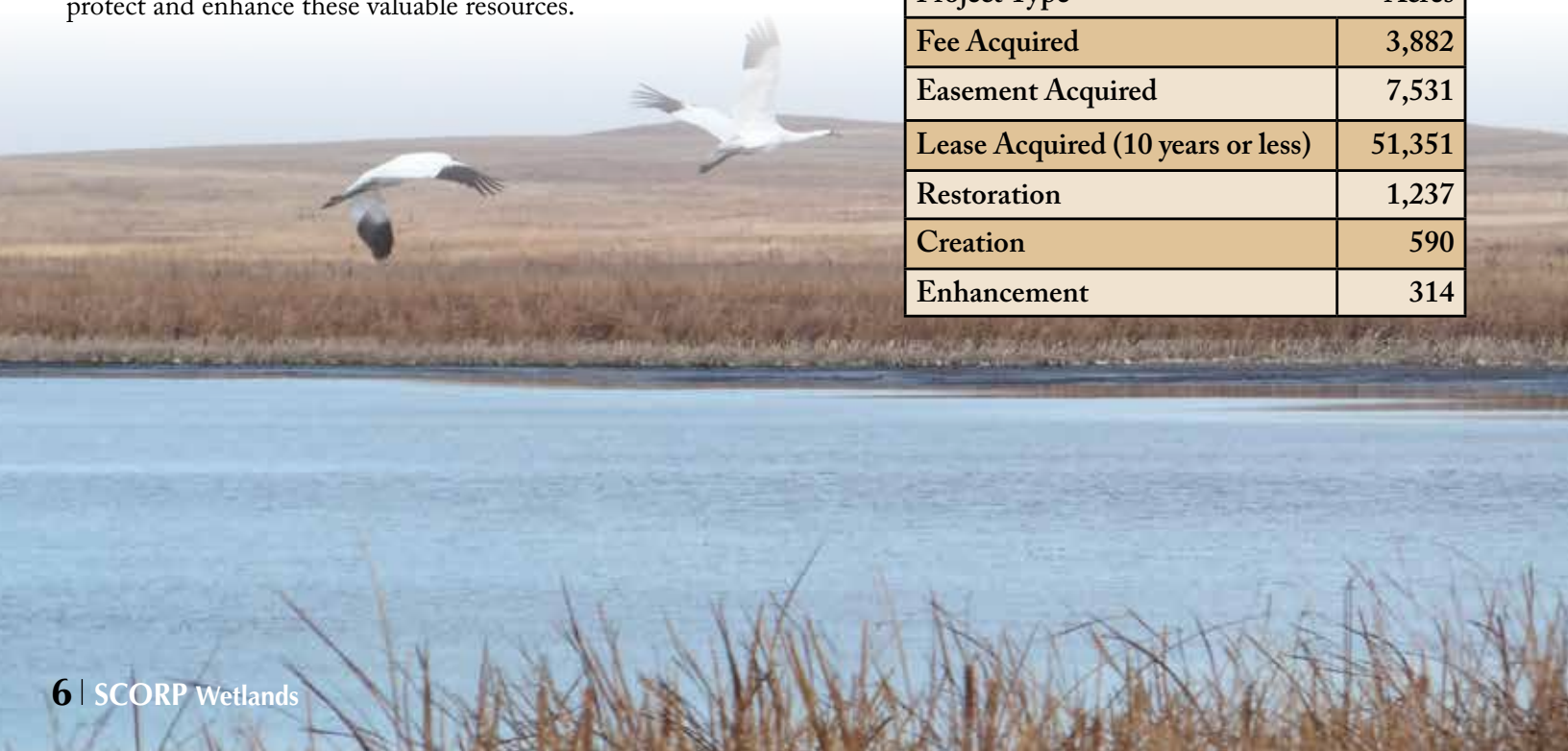
- Clean Water Act, Section 404 Regulatory Program

Delta Waterfowl

- Adopt-A-Pothole Program

NAWCA Wetland Protection Accomplishments in North Dakota 2010-2016¹⁹

Project Type	Acres
Fee Acquired	3,882
Easement Acquired	7,531
Lease Acquired (10 years or less)	51,351
Restoration	1,237
Creation	590
Enhancement	314



Ducks Unlimited

- Conservation Easements
- Carbon Offset Program
- 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
- Waterbank Program

North Dakota Game and Fish Department

- Private Land Initiative Programs: Habitat Plot Program

North Dakota Natural Resource Trust

- Missouri River Riparian Programs
- Long-Term/Permanent Land Protection Programs

Wetlands are an important natural resource in North Dakota, offering a variety of recreational, biological and economic benefits. 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.

Bibliography

1. U.S. Department of Interior. National Park Service. Land and Water Conservation Fund State Assistance Program Federal Financial Assistance Manual. Vol. 69. October 1, 2008. <https://www.nps.gov/subjects/lwcf/lwcf-manual.htm>
2. North Dakota Game and Fish Department. North Dakota State Wildlife Action Plan. July 2015. Accessed January 26, 2017. https://gf.nd.gov/sites/default/files/publications/swap-2015_0.pdf
3. U.S. Geological Survey. North Dakota Water Science Center. Accessed February 1, 2017. <http://nd.water.usgs.gov/wetlands/index.html>
4. U.S. Fish & Wildlife Service. Partners for Fish & Wildlife – North Dakota. Accessed February 4, 2017. <https://www.fws.gov/mountain-prairie/refuges/northdakotapfw.php>
5. North Dakota Game and Fish Department. North Dakota State Wildlife Action Plan. July 2015. Accessed January 26, 2017. https://gf.nd.gov/sites/default/files/publications/swap-2015_0.pdf
6. Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior. Fish and Wildlife Service. Accessed January 27, 2017. <https://www.fgdc.gov/standards/projects/wetlands/nvcs-2013>
7. Environmental Protection Agency. Economic Benefits of Wetlands. EPA843-F-06-004. May 2006. Accessed January 26, 2017. <https://www.epa.gov/sites/production/files/2016-02/documents/economicbenefits.pdf>
8. Hunting Works for North Dakota. “Economic Data.” Accessed February 8, 2017. <http://huntingworksformd.com/economic-data/>
9. Environmental Protection Agency. Functions and Values of Wetlands. EPA843-F-01-002c. September 2001. Accessed February 1, 2017. <https://www.epa.gov/sites/production/files/2016-02/documents/wetlandfunctionsvalues.pdf>
10. North Dakota Game and Fish Department. North Dakota State Wildlife Action Plan. July 2015. Accessed January 26, 2017. https://gf.nd.gov/sites/default/files/publications/swap-2015_0.pdf
11. Environmental Protection Agency. Economic Benefits of Wetlands. EPA843-F-06-004. May 2006. Accessed January 26, 2017. <https://www.epa.gov/sites/production/files/2016-02/documents/economicbenefits.pdf>
12. Environmental Protection Agency. Threats to Wetlands. EPA 843-F-01-002d. September 2001. Accessed March 2, 2017. <https://www.epa.gov/sites/production/files/2016-02/documents/threatstowetlands.pdf>
13. North Dakota Industrial Commission. Department of Mineral Resources Oil and Gas Division. “North Dakota Oil and Production Statistics.” Accessed March 21, 2017. <https://www.dmr.nd.gov/oilgas/stats/statisticsvw.asp>
14. North Dakota Game and Fish Department. North Dakota State Wildlife Action Plan. July 2015. Accessed January 26, 2017. https://gf.nd.gov/sites/default/files/publications/swap-2015_0.pdf
15. U.S. Census Bureau. State & County QuickFacts. “North Dakota.” Accessed February 6, 2017. <http://www.census.gov/quickfacts/table/PST045216/38>
16. North Dakota Game and Fish Department. North Dakota State Wildlife Action Plan. July 2015. Accessed January 26, 2017. https://gf.nd.gov/sites/default/files/publications/swap-2015_0.pdf
17. U.S. Department of Interior. U.S. Fish and Wildlife Service. National Wetlands Priority Conservation Plan. June 1993 edition. Accessed March 10, 2017. <http://digitalmedia.fws.gov/cdm/ref/collection/document/id/1356>
18. Prairie Pothole Joint Venture Implementation Plan. 2015. <http://ppjv.org/resources/implementation-plan>
19. North Dakota Natural Resource Trust, North American Wetlands Conservation Act (NAWCA). “Grant and Match Programs 2010-2016.”



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