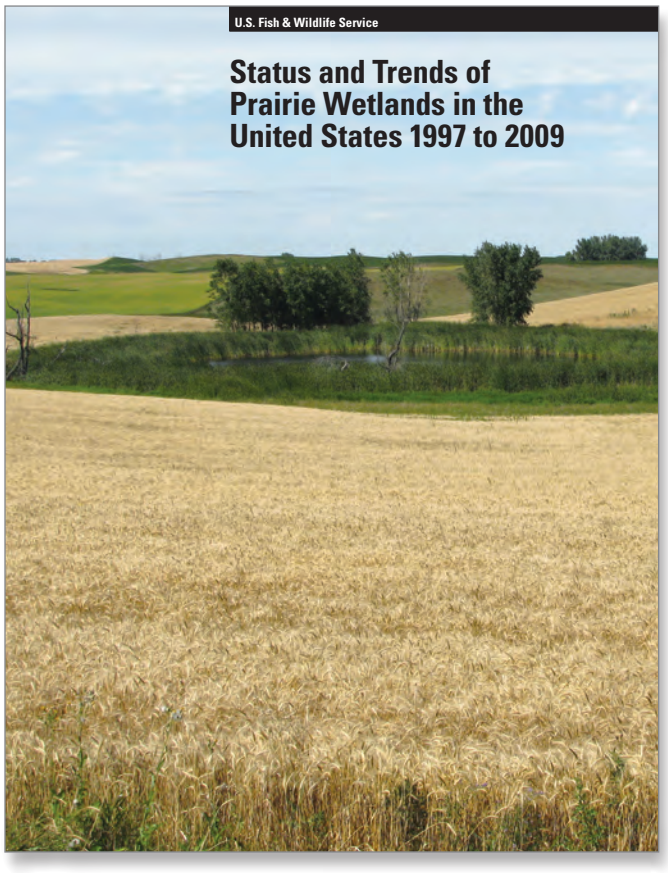
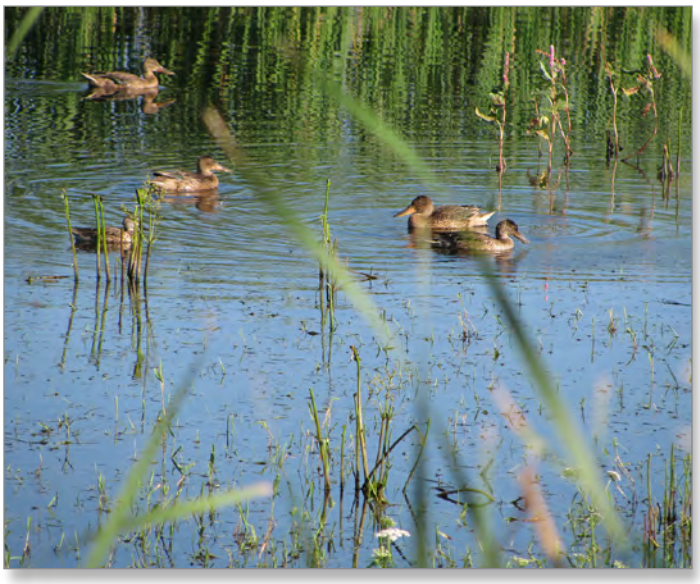
Status and Trends of Prairie Wetlands in the United States 1997 to 2009

The U.S. Fish and Wildlife Service (USFWS) is the principal Federal agency that provides information to the public on the extent and status of the Nation's wetlands. The USFWS communicates information essential for public awareness and understanding of the importance of fish and wildlife resources and changes reflecting environmental conditions that will ultimately affect the welfare of people. The USFWS has produced a series of reports on wetland status and trends that provide information on wetland extent and types in various parts of the country. These provide resource managers useful data to inform decisions on wetland-related issues such as establishing restoration and habitat enhancement priorities, assessing habitat availability, identifying possible changes from climatic conditions and implementing strategic ecosystem management actions.

This report presents the latest status information on the extent, type and trends of wetland resources in the Prairie Pothole Region (PPR) of the United States and provides estimates of losses or gains that occurred between 1997 and 2009. The information presented provides data on the areal extent of wetland types, both past and present, to help prioritize conservation planning efforts for wetland resources and contribute additional information to facilitate strategy and policy development. This study does not assess wetland condition or other qualitative changes to wetlands in the PPR.



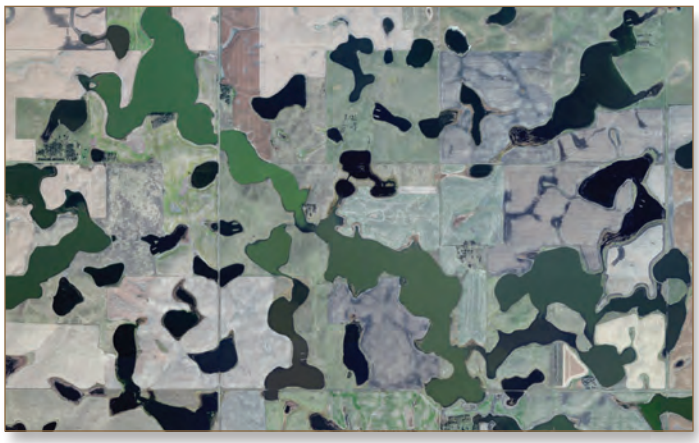


The Importance of Wetlands in the Prairie Pothole Region

The PPR in the U.S. encompasses an area of about 150,930 mi^2 and extends from central Iowa north to the Canadian border and includes portions of the states of Iowa, Minnesota, North Dakota, South Dakota and Montana. The region is characterized by numerous small landscape depressions left behind as the glaciers receded from this part of the continent. These landscape depressions, termed "potholes", collect rainfall and snowmelt forming small shallow wetlands and ponds. At least fifteen duck species nest in the prairie region. Wetlands are the cornerstone that support these species as well as other populations of North American waterbirds known to use wetlands in the PPR.

Northern Shovelers (Anas clypeata) on a prairie wetland.

Drainage in the Prairie Pothole Region of MN and IA, 1950s.



Numerous wetland basins, Day County SD, circa 2010.

During the past century, prairie wetlands were extensively drained and in some areas only isolated tracts of wetland habitat remain. Drainage for agriculture during the years preceding the 1980s was pervasive as tile and open-ditch drains eliminated large numbers of wetland basins and converted lands to crop production.

Monitoring Prairie Wetland Extent and Change

Changes in wetland area were measured by the examination of high resolution imagery for 755 randomly selected sample plots covering the prairie regions of Montana, North Dakota, South Dakota, Minnesota, and Iowa. The analysis of this imagery in combination with field verification provided a scientific basis for estimations of wetland extent, type and distribution that had occurred between 1997 and 2009. Important procedural enhancements to this study of the PPR included the addition of wetland and water basin morphology, hydrologic descriptors and the addition of an upland grassland category to track changes in grassland area.

There were an estimated 6,427,350 acres of wetlands in the PPR in 2009. Emergent wetlands made up about 87.7 percent of the total wetland area and 93 percent of all wetland basins in the PPR.

Between 1997 and 2009, total wetland area declined by an estimated 74,340 acres (30,100 ha) or 1.1 percent in the PPR. This represents an average annual net loss of 6,200 acres. Between 1997 and 2009 wetland/water basins declined by over 107,177 or 4 percent. Wetland basin numbers declined in every state in the PPR with the exception of Montana. Ninety six percent of the basins lost were temporarily flooded emergent and farmed wetlands as these basin types declined by 7.8 percent. The mean size of the basins lost was 0.85 acres. Changes in wetland extent and type between 1997 and 2009 were the result of cumulative impacts related to ecological change; changes in climate that altered hydrology (e.g. flooding); anthropogenic changes such as draining, ditching or filling wetlands; or a combination of these influences.

Grassland occupied approximately 21.1 million acres (8.6 million ha) in the PPR in 2009. Grassland area declined by an estimated 568,040 acres or 2.6 percent. There was a three to one ratio of grassland to wetland region-wide. The loss of grassland in the PPR is particularly disturbing because this has been shown to seriously reduce bird populations and influence sedimentation rates and impair water quality in remaining wetlands and surface waters.

Drainage ditch in agricultural fields of Minnesota.

Download the Prairie Wetlands Report

http://www.fws.gov/wetlands/Documents/Status-and-Trends-of-Prairie-Wetlands-in-the-United-States-1997-to-2009.pdf

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http://www.fws.gov/wetlands/Status-and-Trends/index.html