



# Threats to Wetlands

Destroying or degrading wetlands can lead to serious consequences, such as increased flooding, extinction of species, and decline in water quality. We can avoid these consequences by maintaining the valuable wetlands we still have and restoring lost or impaired wetlands where possible.

## What Is the Status of Our Nation's Wetlands?

More than 220 million acres of wetlands are thought to have existed in the lower 48 states in the 1600s. Since then extensive losses have occurred, and more than half of our original wetlands have been drained and converted to other uses. The mid-1950s to the mid-1970s were a time of major national wetland loss. Since then the rate of loss has slowed.



The National Audubon Society notes that bird populations continue to decrease as wetlands are destroyed. In the past 15 years alone, the continental duck breeding population fell from 45 million to 31 million birds, a decline of 31 percent. The number of birds migrating over the Gulf of Mexico, which rely on coastal wetlands as staging areas (especially in Louisiana and Mississippi), has decreased by one-half since the mid-1960s. Approximately 100 million wetland acres remain in the 48 contiguous states, but they

continue to be lost at a rate of about 60,000 acres annually. Draining wetlands for agricultural purposes is significant, but declining, while development pressure is emerging as the largest cause of wetland loss.

Unfortunately, many remaining wetlands are in poor condition and many created wetlands fail to replace the diverse plant and animal communities of those destroyed.

When a wetland functions properly, it provides water quality protection, fish and wildlife habitat, natural floodwater storage, and reduction in the erosive potential of surface water. A degraded wetland is less able to effectively perform these functions. For this reason, wetland degradation is as big a problem as outright wetland loss, though often more difficult to identify and quantify.

## What Is Adversely Affecting Our Wetlands?

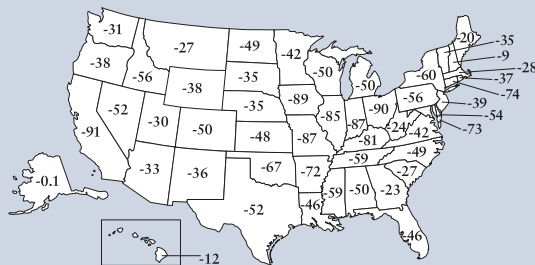
Human activities cause wetland degradation and loss by changing water quality, quantity, and flow rates; increasing pollutant inputs; and changing species composition as a result of disturbance and the introduction of nonnative species. Common human activities that cause degradation include the following:

**Hydrologic Alterations.** A wetland's characteristics evolve when hydrologic conditions cause the water table to saturate or inundate the soil for a certain amount of time each year. Any change in hydrology can significantly alter the soil chemistry and plant and animal communities. Common hydrologic alterations in wetland areas include:

- Deposition of fill material for development.
- Drainage for development, farming, and mosquito control.
- Dredging and stream channelization for navigation, development, and flood control.
- Diking and damming to form ponds and lakes.
- Diversion of flow to or from wetlands.
- Addition of impervious surfaces in the watershed, thereby increasing water and pollutant runoff into wetlands.

**Pollution Inputs.** Although wetlands are capable of absorbing pollutants from the surface water, there is a limit to their capacity to do so. The primary pollutants causing wetland degradation are sediment, fertilizer, human sewage, animal waste, road salts, pesticides, heavy metals, and

Percentage of Wetlands  
Acreage Lost, 1780s–1980s



Twenty-two states have lost at least 50 percent of their original wetlands. Since the 1970s, the most extensive losses have been in Louisiana, Mississippi, Arkansas, Florida, South Carolina, and North Carolina.

Source: *Wetlands*, 2<sup>nd</sup> edition, Van Nostrand and Reinholdt, 1993.

selenium. Pollutants can originate from many sources, including:

- Runoff from urban, agricultural, silvicultural, and mining areas.
- Air pollution from cars, factories, and power plants.
- Old landfills and dumps that leak toxic substances.
- Marinas, where boats increase turbidity and release pollutants.



Pollutants such as sediment, nutrients, pesticides, and heavy metals degrade wetlands and water quality across the country.

**Vegetation Damage.** Wetland plants are susceptible to degradation if subjected to hydrological changes and pollution inputs. Other activities that can impair wetland vegetation include:

- Grazing by domestic animals.
- Introduction of nonnative plants that compete with natives.
- Removal of vegetation for peat mining.

### What Can You Do?

Nearly 75 percent of all wetlands are privately owned, making it imperative that the public participate in wetland management and protection. Here are some things you can do:

- Conserve and restore wetlands on your property.
- Support local wetlands and watershed protection initiatives by donating materials, time, or money.

- Work with your local municipalities and state to develop laws and ordinances that protect and restore wetlands.
- Purchase federal duck stamps from your local post office to support wetland acquisition.
- Participate in the Clean Water Act Section 404 program and state regulatory programs by reviewing public notices and commenting on applications.
- Encourage neighbors and developers to protect the function and value of wetlands in your watershed.
- Avoid wetland alteration or degradation during project construction.
- Maintain wetlands and adjacent buffer strips as open space.
- Reduce the amount of fertilizers, herbicides, and pesticides applied to lawns and gardens.



Swamp tupelo

## The Wetland Fact Sheet Series



American Avocet

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For more information, visit [www.epa.gov/owow/wetlands](http://www.epa.gov/owow/wetlands).

## Wetland Resources

*A Global Overview of Wetland Loss and Degradation.* Available on The Ramsar Convention on Wetlands' web site at [www.ramsar.org/about\\_wetland\\_loss.htm](http://www.ramsar.org/about_wetland_loss.htm).

*Wetland Issues.* Available on-line at [www.nceonline.org/NLE/CRSreports/Wetlands/wet-5.cfm](http://www.nceonline.org/NLE/CRSreports/Wetlands/wet-5.cfm).

*Wetlands Loss and Degradation.* Visit the North Carolina State University Water Quality Group's on-line informational database, WATERSHEDSS, at [h2osparc.wq.ncsu.edu/info/wetlands/wetloss.html](http://h2osparc.wq.ncsu.edu/info/wetlands/wetloss.html).

*Wetlands and Agriculture: Private Interests and Public Benefits,* Ralph E. Heimlich et al. USDA-ERS Report No. 765. Available on-line at [www.ers.usda.gov/publications/aer765](http://www.ers.usda.gov/publications/aer765).