



3 Consequences of Losing or Degrading Wetlands

Losing 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 have and restoring wetlands where possible.

Increased Flooding

If wetlands are lost or degraded, we lose their ability to control flooding. (See Fact Sheet #2.)

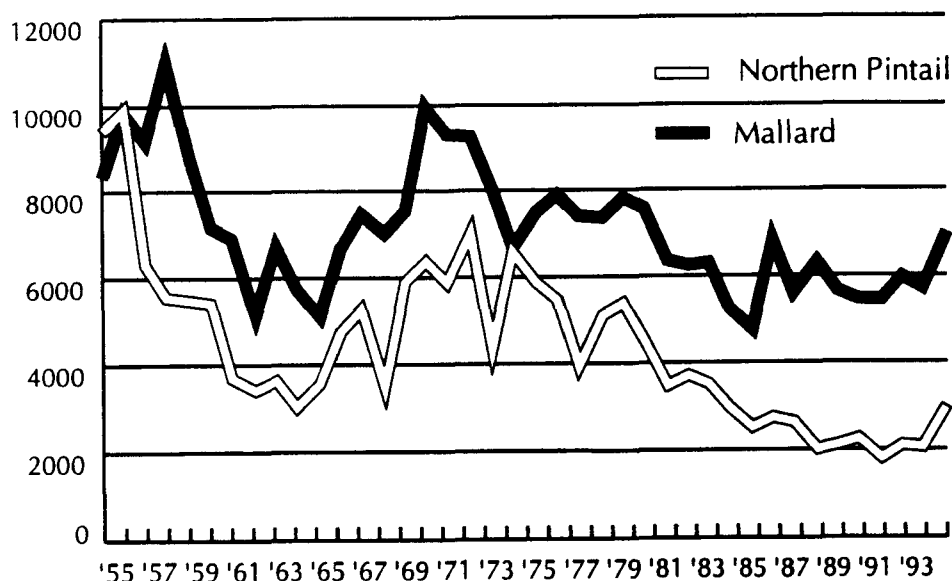
For example, based on a 1972 study comparing parts of the Charles River in Massachusetts, the U.S. Army Corps of Engineers determined that the loss of 8,422 acres of wetlands near Boston within the Charles River Basin would have resulted in annual flood damage of over \$17 million. For this reason, the Corps of Engineers elected to preserve the wetlands instead of constructing extensive flood control facilities. (Source: Army Corps of Engineers. 1976. *Water Resources Development Plan, Charles River Watershed, Massachusetts*. Corps, New England Division, Waltham, MA.)

Damage to Species

Because many species depend on wetlands, whatever harms wetlands harms these species. For example, the well-being of waterfowl populations is tied directly to the status and abundance of wetland habitats.

Populations of mallard and northern pintail ducks in North America have declined since 1955 (see graph). The loss and degradation of wetlands is one of the major causes for the decline. In 1994 duck populations had increased by 24% over the 1993 estimate and were the highest since 1980. Scientists believe that improved wetland conditions and increased cover on Conservation Reserve Program lands may be major factors in this increase. (Source: U.S. Fish and Wildlife)

Decline in Duck Population: 1955-1994



Service, Office of Migratory Bird Management. 1994. *Waterfowl Population Status 1994*. U.S. Government Printing Office, Washington, DC.)

Degraded wetlands may not be able to support species that make their homes there. Wetlands in the Kesterson National Wildlife Refuge were continuously flooded with irrigation return flow that had high concentrations of selenium. As a result, largemouth and striped bass and catfish disappeared from the refuge in 1982. In the spring of 1983, eggs from water birds at the site hatched less frequently and had more deformities in the embryos. (Source: Harris, T. 1991. *Death in the Marsh*. Island Press, Washington DC.)

Overlogging of mature U.S. bottomland hardwood forests is believed to have caused the extinction of the Ivory-Billed Woodpecker, North America's largest woodpecker.

(Source: Gosselink et al., eds. 1990. *Ecological Processes and Cumulative Impacts*. Lewis Publishing, Chelsea, MI.)

Loss in Water Quality

Destroying or degrading wetlands results in lower water quality. For example, forested wetlands reduce nutrient loading into water bodies such as the Chesapeake Bay. Forested riparian (streamside) wetlands in predominantly agricultural watersheds have been shown to remove approximately 80% of the phosphorous and 90% of the nitrogen from the water. If wetlands, however, do not perform this function, results will include an increase in undesirable weed growth and algae blooms. When the algal blooms decompose, large amounts of oxygen are used up, depriving fish and other aquatic organisms. Algal blooms are a major cause of fish kills.

