

Wetland Ecosystems and Subaqueous Soils

Wetland ecosystems provide wildlife habitats and can play a major role in nutrient cycling, greenhouse gas mitigation, and wastewater treatment.

From a soil science perspective, these wetlands are on sub-aqueous soils, which may be primarily organic (like peat) or mineral in composition. Soil processes are primarily responsible for the beneficial effects of natural and constructed wetlands. NIFA supports research, education, and extension projects related to these ecosystems through both competitively awarded and formula-funded grants. Several ongoing projects are studying how management and certain characteristics affect carbon storage and longevity, nutrient retention, and contaminant retention and breakdown in these systems, and how these processes change over time in artificially constructed or restored wetlands.

Through the 2002 Farm Bill Wetlands Reserve Program and the Natural Resources Conservation Service, USDA provides funding for restoration of wetlands. The Wetlands Reserve Program is intended to enhance fish and wildlife habitat on previously farmed wetlands, pasture, range, or forest land through cost-sharing agreements or easements. The wetlands also assist in recharging groundwater aquifers and can store carbon that reduces greenhouse gas emissions.