Photo: UT Gardens, Knoxville, TN (Andrea Ludwig)

Benefits of Tennessee Wetlands

Water Quality: Research shows TN wetlands may retain over 300 metric tons of nitrogen and 50 metric tons of phosphorus per year, preventing harmful toxins and algae blooms.

- Wetlands naturally filter stormwater, removing harmful pollutants such as excess fertilizers, pesticides, sediment, and other chemicals.
- Protecting wetlands reduces treatment costs and results in cleaner water for TN.

Flood/ Disaster Control: Wetlands absorb ~ 350 billion gallons of rain a year. Filling in wetlands reduces the capacity for natural landscapes to absorb storm runoff and can increase flood risk.

- Flooding is one of TN's costliest disasters with citizens at risk.
- Wetlands are a natural, highly economical solution to reduce life and property loss due to floods.
- Between 2001 - 2016 lost wetland acres cost taxpayers between $1-4,000/ per acre in direct costs mostly due to flooding.

Drinking Water Supply: About 2 million Tennesseans rely on wetlands that resupply groundwater and aquifers and pretreat billions of gallons of water per year reducing water treatment costs.

- Wetlands connect to water resources miles from the site.

Economic Value: Every acre of wetland in TN provides $13,500 in estimated value to Tennesseeans annually. The value is derived from benefits like flood mitigation, water quality, habitat protection and recreation/ tourism.

- Only 40% of TN's original wetlands remain (787k acres), which equates to an estimated value of over $10.5 billion.
- Wetlands provide habitat for migrating waterfowl, which adds millions of dollars to the economy in West TN, where birdwatching and hunting are popular.

Wildlife Habitat: Wetlands play a vital role for many species of plants and wildlife, serving as critical habitats, water sources, nurseries, and migration sites.

- TN is a global hotspot for aquatic biodiversity and is home to 7 of the 8 most ecologically rich rivers in North America.
- TN is the most biologically diverse inland state and ranks 1st for freshwater fish with over 300 identified fish species.
- TN has over 2500 other species including salamanders that live nowhere else in the world and over 2300 various plant species.

References: J. Murdock, A. Ludwig, M. Gray, C.Vanags 'Benefits of Isolated Wetlands'. The Nature Conservancy, and Tennessee Wildlife Resources Agency 2024 SWAP, NWI

Publication developed for use based on data available May 2025.

About Wetlands

Wetlands: Over 60% of TN's natural wetlands no longer remain and have been developed.

- TN's unique soils, geology, and waterways connect surface and groundwater creating wetlands of varying sizes and types across the three grand divisions of our state.
- Wetlands are identified by water, soils, and plants found onsite.

Wetlands Across TN's 3 Grand Divisions

Water Connections: As TN faces increasing water supply demands, wetlands offer much-needed resiliency.

- Some wetlands dry out at the surface but remain connected to the groundwater table below the surface, helping to recharge drinking water supply and stream connections sometimes miles away.

Wetland Ecology helps to:

- Absorb TN's average rainfall of 53" per year.
- Provide habitat vital for wildlife biodiversity.
- Provide water connections for TN rivers.

Wetland Protections:

- **The Tennessee Water Quality Control Act of 1977** put waters of the state into a public trust protecting all waters above and below ground for all Tennesseans.

Understanding the complex benefits and value wetlands provide is key to their conservation and to the preservation of Tennessee's public prosperity, legacy and heritage.

Tennessee Nutrient Reduction Task Force

Improving Water Quality Together