The Importance of Trees for Wetlands

By Susan Mates

Why Wetlands Matter

A wetland is an ecosystem where land is covered or saturated by water, either permanently or seasonally, including our streams, lakes, marshes and more. They teem with life, even more than you probably imagine, supporting 40% of all plant and animal species on Earth and acting as breeding grounds, nurseries, and stopover points for migratory birds. In fact, more than one-third of our nation's threatened and endangered species live *only* in wetlands.

What do trees have to do with wetlands? Trees are a vital part of healthy wetlands, quietly providing benefits that extend far beyond the edges of the wetland. Here in Washington County, where rivers and seasonal rains shape the landscape, our wetlands' trees filter the water, shelter wildlife, absorb rain like a sponge, prevent erosion and cool everything.

Here are some of the many benefits they provide.

Absorbing Water

One of the most important jobs wetlands perform is slowing and absorbing rainwater, and trees are critical to this function. Wetlands provide natural flood control. Their vegetation, tall to small, as well as their ponds, channels and marshy soils act like sponges. They hold water, preventing it from immediately rushing downstream.

How do trees help? They absorb and use tremendous amounts of water through their roots for growth. In fact, just a single tree can capture many hundreds of gallons of water. This helps prevent flooding after heavy downpours.

Preventing Erosion

Tree roots do more than just keep trees standing tall—they also hold the soil firmly in place. The water from a storm event increases erosion and deposits large amounts of sediment, both of which can destroy important habitats and breeding grounds.

Tree roots act like a net to help hold soil in place, preventing them from being washed away by the rain and reducing erosion along rivers, streams, and floodplains. Fallen tree trunks and branches slow moving water, allowing sediment to settle instead of washing away valuable topsoil. The vegetation of trees and shrubs in a wetland also creates friction that slows the rate of runoff and floodwater, lessening its power to erode. That gives the water time to seep into soil, recharging groundwater.

Filtering water

Wetland trees are natural water filters. As water moves through a wetland and tree roots slow the movement of the water, it's not just sediment that is being allowed to settle. It's also the pollutants being carried with it.

Nutrients such as nitrates and phosphates are often used for agricultural purposes or lawn fertilization. At first blush this sounds like a good thing, but high levels of nutrients cause a detrimental effect called eutrophication, creating unchecked growth of plants and microorganisms such as algae.

When those plants and microorganisms decay, the amount of bacteria needed to break them down consumes the dissolved oxygen in the water, creating what is often referred to as “dead zones”. These dead zones, stripped of oxygen, change the water quality and its chemical composition, destroy plant life, and suffocate animals such as fish which have a key role in the food web .

Trees are very good at removing nutrients (such as nitrates and phosphates) and contaminants (such as metals, pesticides, solvents, oils, and hydrocarbons) from soil and water. These pollutants are either used by the trees for growth (nutrients) or are stored in wood. And in the process, water quality is improved.

Providing Habitat for Wildlife

Because wetlands support high rates of plant productivity, they are some of the most productive ecosystems around, with a varied and complex food web both within and outside of the wetland. For many species like the Canada goose, wood duck, great blue heron, beaver and many more, wetlands are not only their primary habitat but may be the only places they *can* live. Migratory species in particular depend on wetlands to rest, feed, roost, and breed.

Trees and snags provide nesting sites or buffers for nest sites and places for wildlife to hide from predators. Amphibians shelter among roots and fallen logs. Insects feed on leaves and bark, and in turn provide food for fish, birds and mammals. Fish hide in the shadows of trees. When trees topple over and fall into the water, they create pools and hiding places for young salmon and other aquatic species. As fallen leaves tumble into the water, they settle to the bottom where aquatic larvae of winged insects gobble up, shred and collect fragments of leaves and wood. Hungry fish, both adults and youngsters, snatch up those larvae.

Cooling the Water

The shade that trees provide cools the water a few degrees compared to areas without that vegetation. Those few degrees can mean life or death for fish and other aquatic species. For them, the cooler the water, the better. Water that is too warm can make these animals susceptible to disease and parasites, or even make breathing impossible. Developing fish and aquatic insect eggs can't exist without the shade of those wetland trees.

A Brief History of Wetlands—and Why It Matters

Native people thrived for generations as they stewarded the wetlands and other ecosystems of our region —and still do. But things changed significantly with European colonization. Many wetlands were drained or filled for agricultural purposes. Urban development followed, drastically reducing the extent and quality of wetlands. About 57% of our Willamette Valley wetlands have been converted to other uses. Wetlands—and the trees in them—are vital to urban areas yet are often an unprotected part of our ecosystem. They are disappearing three times faster than forests.

Now, there is a growing recognition of the importance of wetlands and efforts are being made to protect and restore them. By conserving and rehabilitating wetlands, their many benefits can continue to support the well-being of both humans and wildlife for our shared future.

How You Can Help

What we do on or to the land affects both the amount and quality of the water in our wetlands. Here are some ways you can make a difference.

- Protecting mature trees is the mission of Treekeepers of Washington County. Help us retain mature trees that shelter wetlands and monitor upcoming developments that will impact wetlands. Visit our website to find out more.
- Avoid using nitrates and phosphates to fertilize your lawn, and convert your lawn to help capture more stormwater and filter it before the water drains into wetlands.

- Join a volunteer effort to plant stream-side trees with The Wetland Conservancy, Tualatin Riverkeepers, Friends of Trees, or others.
- Keep track of how Washington County protects areas of Significant Natural Resource (SNR) along stream corridors. Lift your voice to make sure that they provide the strongest protections.
- Support The Wetland Conservancy in their mission to conserve and steward Oregon's wetlands in partnership with communities.

Beyond their ecological importance, wetlands and their trees also offer benefits people can see and feel every day. They cool surrounding areas, store carbon, soften noise, and create beautiful natural spaces for recreation and reflection. Often sandwiched between areas of dense development, the preservation of wetlands allows wildlife such as beavers to thrive, even adjacent to suburban and industrial areas. Across our county, protecting wetland forests can help our communities become more resilient to climate change, flooding, and heat.

Resources:

- *The Wetland Conservancy*
- *Trees and Wetlands - World Wetlands Day 2024*, Erika Bruce, Our City Forest, February 2, 2024,
- *The Vital Role of Trees and Wetlands in Green Infrastructure*, Maddie Olson, AJB:. June 6, 2025.
- *The Role of Trees and Forests in Healthy Watersheds*, Vincent Cotrone, PennState Extension, August 25, 2025.
- *Wetlands: Protecting Life and Property from Flooding*, United States Environmental Protection Agency, May 2006.
- *Trees: Helping Fish Keep Their Cool*, Susan Mates, Treekeepers of Washington County, September 2023.

- *How Trees Benefit Watersheds*, Susan Mates, Treekeepers of Washington County, September 2025.