

# Trees That Thrive in Wetlands



By Susan Mates

Certain trees have a special love affair with wetlands. Their adaptations make them especially suited for life living with “wet feet.” Unlike trees growing in dry upland forests, many of these trees can tolerate soils with low levels of oxygen, can manage to survive seasonal flooding, and have broad, shallow root systems that anchor them in soft ground. They are likely to have evolved to thrive despite ambitious beavers gnawing them down. All of these qualities in turn help wetlands to be stable and resilient despite the storms and changes that test them.

Not all trees provide the same benefit. Each one fills a specific niche, and size and species matter. For example, a tree like a red alder is thin and decays rapidly in the water, but a large cedar can have a bigger impact and last longer. If you are a fish searching for a place to rest, that diversity can make a difference.

Here are some trees native to our area that are particularly well suited to wetlands.

## **Red alder (*Alnus rubra*)**



If you spot an alder, you can safely guess that there is water nearby. Its roots stabilize riverbanks and prevent the soil from being washed away. One of red alder's greatest gifts is that they can thrive in areas and soils where other plants struggle, which makes them the first pioneers after landslides, logging, or fire. These native trees grow quickly to 30 to 50 feet high. Their roots fix nitrogen, providing nutrients for other plants that follow, including the longer-lived trees that eventually will shade out the alders. Red alders are common in Oregon and provide an important food for wildlife. By summer, its leaves have often been chewed by insects, a good sign that they are a critical link in the food chain. The next time you pass by an alder, thank it for all that it provides.

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**Black cottonwood** (*Populus trichocarpa*)



Cottonwoods do well in places that flood periodically, helping to hold sediments, reduce erosion and stabilize those areas. Lucky seeds from the millions each tree can produce will land on soil that is soft and moist, close to water's edge. Within 24 hours those seeds will sprout and send down a root that follows the water table as it recedes. That ability to propagate is so strong that even a fallen branch can sprout where it lands. Cottonwoods can sprout from stumps or surface roots, and can clone themselves to produce offspring that are connected to their parents by the same root system. Cottonwoods also produce a rooting hormone that helps them colonize new locations.

In full sun, a cottonwood can grow very fast, several feet each year. That rapid growth makes weak wood, so large upper limbs often break off in windstorms, leaving cavities where birds and mammals nest. Beavers can easily gnaw through the weak wood. They love to eat cottonwood bark and use the branches and trunks to construct their dams. Many butterflies, moths and skippers use the leaves of cottonwoods as food for their caterpillars, which then become food for hungry baby birds.

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### **Willow species (*Salix sp.*)**



Willows help re-establish vegetation in wetlands and in denuded, flooded or burned areas where they develop a dense, fibrous root system that searches out water. They grow quickly and root easily, even when only a branch is jammed into the ground. This is because they contain a rooting hormone that allows them to readily take root in wet soil. The flexible stems of willows bend to shade and cool streams, slow floods, filter sediment, and improve water quality.

Willows are ecological heroes when it comes to providing habitat and are a vital source of food for all kinds of wildlife. In particular they are a host plant for many, many types of caterpillars. You may not be the biggest fan of caterpillars, but birds are. Grab your binoculars and head to your nearest willow patch to admire them for yourself!

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## Western redcedar (*Thuja plicata*)



Western redcedars are built for wet Northwest forests. They tolerate flooding, deep shade, and nutrient-poor soils. They are the largest trees in the Pacific Northwest, and some living trees may be well over 1,500 years old.

Even after death, Western redcedars continue supporting life. Fallen trunks resist decay for centuries because the wood contains natural compounds that are toxic to many fungi and insects. These long-lasting “nurse logs” become elevated gardens where mosses, ferns, fungi, insects, and young trees thrive. Western redcedar can even reproduce by layering, or rooting from fallen branches or trunks.

Wildlife depends heavily on these trees, as did the First Peoples of this area. These ancient giants have shaped the ecology, cultures, and landscapes of the Northwest for centuries.

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## **Oregon ash (*Fraxinus latifolia*)**



Our native Oregon ash trees make up about 70% of the Willamette Valley forests that surround our wetlands, and no other species quite fills this niche. They are particularly suited to soggy soils and are found in swamps and flood plains as well as near streams. These places are often too wet for any other trees, even cottonwoods, to thrive. In flood conditions, Oregon ash trees adapt by increasing oxygen pathways down to their extensive roots. Their dense root system keeps them standing in winds and water that topple most other species of trees.

Oregon ash trees are a pantry of food for a long list of animals. Over 53 species of butterflies and moths in the metro area rely on them as habitat, food source, and as larval hosts. At least one of these species, the moth *Sympistis fortis*, relies completely on Oregon ash.

But these ash wildlife magnets are also attractive to invasive Emerald Ash Borers (EAB), the most destructive forest pest in North America. EAB are deadly to our Oregon ash trees, and are expected to cause their near extinction. Forest managers have been preparing by mapping and monitoring ash trees in watersheds. And they have been building resilience by increasing plant diversity along waterways with the other water-loving trees in this list so our wildlife will continue to find shade, food, and habitat.

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In the wetlands of the Willamette Valley, trees do far more than simply grow. They hold riverbanks together through winter floods, shelter salmon streams in summer heat, and create homes for countless birds, insects, and mammals. Red alder, black cottonwood, willow, Western redcedar and Oregon ash stand rooted in water, resilient in storms, and generous in the life they support.

These wetlands remind us that healthy communities depend on healthy ecosystems. Every tree preserved, every invasive plant removed, and every native sapling planted is an investment in cleaner water, richer wildlife habitat, cooler summers, and a more beautiful valley. Their future will be shaped by the choices we make now. And with care, stewardship, and a shared sense of responsibility, these remarkable wetland forests will continue to thrive for generations yet to come.

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