

# The Value of Wetlands

Notes from the Wetlands Program, Department of Environmental Conservation

Jim and Lyn Des Marais knew they had something special when they purchased their 1,250-acre farm in Brandon, Vermont in 2013. Fertile hay fields and historic barns of the former dairy farm compliment beautiful views of the nearby Otter Creek. But to USDA-NRCS soil conservation technician Sally Eugair, richer treasures lay cached in the 500 plus acres of wetland on the property. Unique plants and animals in wetlands compliment a long list of valuable ecological functions provided in these ecosystems.

After three years of collaborative work with the USDA-NRCS, the Des Marais family is enrolling their wetland acreage into the Agricultural Conservation Easement Program, a federal assistance program available to private landowners wishing to protect, restore, and enhance wetlands. This easement will add significantly to the state and federally restored and protected wetlands along Otter Creek, contributing to the expanse of natural infrastructure that stores floodwater, creates wildlife habitat, and provides many valuable ecological services in the region.



Historically, the value of wetlands was relegated to their potential to be ditched and drained for productive cropland or developable waterfront property. The first piece of state legislation to protect state-significant wetlands came into effect in 1990 but was limited to only “significant” wetlands that were already mapped by the National Wetland Inventory. The legislation also included protection of a 50-foot buffer zone around these wetlands.

Today, wetlands are being preserved and restored by private landowners, towns, and State agencies that realize the important ecologic and economic role of these rich and diverse areas. Legislative efforts in 2010 broadened protection of wetlands and their buffers to include greater variety of types and sizes. New legislation for the 2017 session may be on the horizon.

Collectively, wetland networks create complex and integrated systems essential for a healthy environment. Read on to learn more about **ten beneficial functions** and values of healthy wetlands in our communities.

## 10 Beneficial Functions of Healthy Wetlands

1. **Water storage** – Surging stormwater plays havoc with roads, buildings and farm fields built alongside rivers. Wetlands act as natural tubs for water spilled over river banks or flooded into depressions, releasing it slowly from the soil after the heaviest deluge has passed. Wetlands in and upstream of urban areas are particularly valuable for flood protection.
2. **Water quality protection** – Dense plant root systems in wetlands slow floodwater when it overflows rivers or lakes and slows stormwater runoff from developed areas. Wetlands capture as much as 90 percent of soil carried downstream from eroding stream channels, hillsides, or backroads. Additionally, wetland plants capture some of the problematic nitrogen and phosphorous that stimulates excessive plant, algae and cyanobacteria growth in lakes and rivers.
3. **Erosion control** – Fast water and big waves erode soil from river banks and lakeshores. Plants growing in wetlands along river and lake borders absorb the impact of rough waters during floods and storms. In calmer conditions, these plants bind soil in their dense root systems and stabilize river corridors.
4. **Fish habitat**-- Wetlands serve as spawning waters for certain freshwater lake fish such as northern pike, black bullhead and yellow perch. Additionally, wetlands provide ample food for small fish, aquatic invertebrates, and shellfish that forage for small pieces of dead plants awash in the water.
5. **Wildlife habitat** – The fast growth of wetland vegetation creates food and shelter for species that use wetlands as their primary habitat, such as wood ducks, great blue herons, beavers and snapping turtles. Nationally, 80% of bird species rely on wetland habitat in some stage of their life. Other species such as black bear, moose, wood frogs and marsh hawks pass through wetlands during key times in their life cycle, utilizing the cover, food, and water unique to wetland environments.
6. **Rare and endangered species habitat** – Any wetland that is home to rare, threatened or endangered plant or animal is considered “state-significant” and is protected under Vermont law. Nearly half of endangered and threatened species nationwide rely on wetlands for survival, including Eastern Jacob’s ladder and spiny softshell turtles. Preserving their habitat is as important as preserving the species themselves.

7. **Exemplary natural communities** – Cattail marshes and spruce-fir-tamarack swamps are some of the state’s more common wetlands. But the Natural Heritage Inventory recognizes almost forty more wetland natural community types, including rare rich fens, alpine peatlands and red maple-black gum swamps. These specific arrangements of plant life—the *natural community*—can only exist because of the unique natural elements of certain wetlands. Rarity of type, as well as wetland age and size, contribute to a wetland’s classification as an exemplary natural community.
8. **Education and research** – Home to unique lifeforms and rich historical plant records buried in the soil, wetlands are brimming with a diverse array of species and ecologic conditions valuable to education and research initiatives. Wetlands preserved by public ownership or through conservation easements enable long-term education and research opportunities in these unique places.
9. **Recreation** – Visitors to wetlands usually come for the birds, wildlife, or unusual plants. But wetlands are also places for fishing, trapping and hunting for many outdoor enthusiasts in the state.
10. **Open space** – Photographers, painters and even writers are drawn to the open sky and rich waterscape of wetlands. Outdoor enthusiasts appreciate the vistas that wetlands provide for watching wildlife, particularly in developed areas where open and wild space can be rare.