North American Native Plant Society

Dedicated to the study, conservation, cultivation, and restoration of North America's native flora

Wetlands

Native species of fens, bogs, marshes and swamps

Wetlands are integral to the health of our environment, especially our waterways and, by extension, our water supply. They filter contaminants out of rivers, streams and ponds, and control water's flow, providing protection from flooding. They moderate our climate, as the plants and soils of wetlands represent significant carbon sinks. Wetland habitat supports a vast, diverse range of plants, insects, and animals.

Wetlands — fens, bogs, marshes and swamps — have traditionally been the first natural areas eliminated in places under development. Commonly viewed as harmful mosquito generators, they are too often drained and farmed or built over. They are seldom included in the "renaturalization" plans of even the most enlightened homeowners.

Worldwide, 50% of wetlands have disappeared since 1900.

Like the meeting points of all ecosystems, wetlands — the ecotone between water and land — have characteristics of both systems. Plants from both zones can be found in them, as well as species that are unknown outside of these special areas.

> Tiny versions of these amazing wetland habitats can be easily added to your yard.

Precipitation diverted from the impermeable surfaces outside a house, such as roofs, driveways, walkways, or patios, can be re-directed into miniature wetlands. An added bonus: by diverting this moisture away from storm sewers, we protect local waterways and recharge groundwater. (See NANPS *Downspout Gardens* brochure for more information.)

Peat, long a favourite additive of gardeners, is farmed from wetlands. While a small harvest is sustainable, concerns have been raised that peat moss use in landscaping is destroying too many of our wetlands. Peat is used to lighten heavy soils and provide more acidity. Readily available alternatives include compost, cocoa mulch, coir (coconut husk), shredded wood waste, and spent mushroom compost. Canada has the largest concentration of peatlands in the world.

Defining Wetlands

Fen: nutrient rich fed by slow-moving groundwater, less acidic than bogs with alkaline, neutral or slightly acidic peaty soil

Bog: wetland with acidic, peaty soil, often dominated by peat moss, treed or open, low nutrient availability

Marsh: low-lying land that is flooded in wet seasons or at high tide and typically remains water-logged at all times

Swamp: wooded wetland of shrubs or trees, flooded most or all of the time

Wetlands occur throughout North America, from the coast to the interior, from the deepest regions of the Arctic to the most arid deserts of the American Southwest. Certain wetlands are characteristic of particular regions:

- bogs and fens of the northeastern and north-central United States, Canada and Alaska, including the muskeg (peat bogs) of boreal regions
- wet meadows or wet prairies in the midwest U.S. and central provinces
- inland saline and alkaline marshes and riparian wetlands of the arid and semi-arid west
- prairie potholes of Canada and the north-central United States
- alpine meadows of the west playa lakes of the southwest and Great Plains
- bottomland hardwood swamps of the south
- pocosins and Carolina Bays of the southeast coastal states
- tundra wetlands of Alaska and the Canadian north

Wild rice
Zizania aquatica

Wild rice is an annual grass found in *emergent zones* (persistent flooding), growing up to three metres (10 feet) tall in water up to 1.5 metres (five feet) deep. It's a major food plant for ducks, bobwhites, songbirds, muskrat, deer, fish and bumblebees.

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Plants Suitable for Wet Conditions

Wetland plants often cope with flooded conditions by obtaining at least some of their oxygen through their leaves, flushing it to their roots via large interconnected cells called aerenchyma. Below, you will find just a tiny sampling of the diversity of plants found in these spectacular environments.

Peatland Species: bogs/fens

Orchids (*Orchidaceae* Family), the world's largest plant family, are usually rare in North America due to their specialized habitat requirements and their fragility: habitat disturbances can easily eliminate them. Most species depend on root/fungus symbiosis (mycorrhiza). Various species are pollinated by a range of bees, moths, and butterflies.

Pitcher plant (*Sarracenia purpurea*), Sundews (*Drosera* spp.), and **Bladderworts (*Utricularia* spp.)** are examples of peat bog plants that are fascinating for their insect-eating habits. They also provide habitat for a range of smaller arthropods.

Wet Meadow Species: alternating wet and dry conditions

Woolly Sedge (*Carex lanuginosa*)
Swamp Milkweed (*Asclepias incarnata*)
Water Avens (*Geum rivale*)

Water's Edge Species: continually wet

Marsh Marigold (*Caltha palustris*)
Sedges (*Carex* spp.) There are over 200 species of sedges in North America, distinguished by their usually triangular stems, many — but not all — preferring wet areas. Sedges are generally more deeply rooted than most wetland species. They provide food for a wide range of insects and songbirds.

Floating and Submersed Species

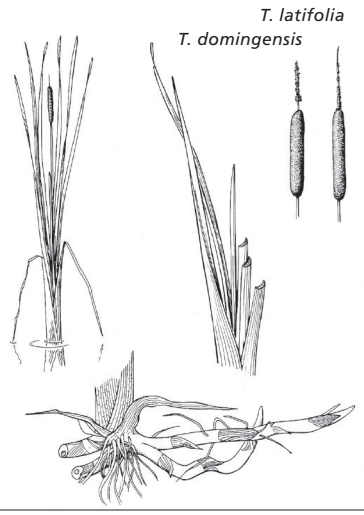
These species photosynthesize in water and use water to support their stems. Some pond weeds, including **Greater Duckweed (*Spirodela polyrhiza*)** — one of the world's smallest flowering plants — are free-floating. Others, like **Hornwort (*Ceratophyllum demersum*)**, are rooted and remain completely submerged.
Water lilies (*Nymphaea* spp.) are rooted with long flexible stems reaching to the water's surface.

Emergent Zone Species: persistent flooding

Wild Rice (*Zizania aquatica*) See front for description.
Pickerelweed (*Pontederia cordata*) produces large blue flower spikes (pollinated by bumblebees and hummingbirds) and arrow-shaped leaves from June to October. It's also important to the life cycles of dragonflies and damselflies.

Cattails
Typha spp.

Cattails, illustrated at right, and **Rushes (*Juncus* spp.)** grow in emergent zones and hold their leaves above water.



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Shrubs

Pussy Willow (*Salix discolor*)
Winterberry Holly (*Ilex verticillata*)
Sweet Gale (*Myrica gale*) grows in fens and bogs and on shorelines. It hosts a variety of moth caterpillars while its nutlets feed songbirds. Moderately shade-tolerant.

Trees

Eastern White Cedar (*Thuja occidentalis*)
Black Gum (*Nyssa sylvatica*)
Red Maple (*Acer rubrum*)
Black Spruce (*Picea mariana*)
Tamarack (*Larix laricina*) is North America's only conifer to lose all its leaves each autumn. The favoured nesting site of the Great Gray Owl, it also attracts numerous insect-feeding birds.

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https://www.canada.ca/en/environment-climate-change/services/water-overview/sources/wetlands.html

http://www.wetlands.org https://www.epa.gov/wetlands

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