



Wetland Plants

In North Carolina



THE BASICS

Wetlands have special plants.

Plants can show us that we are in a wetland. Just like we need water to survive, plants need water too! Some plants need LOTS of water to be healthy. Some plants only need a little bit of water. Many plants are somewhere in the middle. Plants that like a lot of water are called **hydrophytes**, or “water plants.” Wetlands are full of hydrophytes.

Have you ever seen a lily pad? Lily pads are hydrophytes. They live in a lot of water like in ponds or lakes. Wetlands with just the right amount of water can be homes for lily pads. If a wetland does not have enough water for the lily pad leaves to float on, you won't find them there.

There are many other plants we find in a wetland. Certain trees, flowers, grasses, and mosses that love water like to live in wetlands too.

WANT TO KNOW MORE?

A wide variety of hydrophytes live in wetlands.

Certain trees, shrubs, reeds, and mosses can all thrive in wetlands, as long as they can survive periods of soil **saturation** (when all the spaces between soil particles are filled with water). Plants need oxygen, so when those air pockets in the soil are filled with water, plants have to get creative. Many wetland plants have **adaptations** that allow them to use special methods for getting oxygen and to grow in water. Adaptations are special features that help plants grow better in certain environments. Water lilies have adaptations in the form of lily pads—large flat leaves that float on the water so they can get the most sunlight, since sunlight doesn't reach far below the water's surface. Lily pads also have a waxy outer layer on top to help keep them dry. Can you think of any special wetland plants you've seen around ponds or swamps?



Water lily (*Nymphaea odorata*)



Cattail (*Typha* sp.)



Venus fly trap (*Dionaea muscipula*)



LET'S GET TECHNICAL

Plant scientists have assigned each species of plant a wetland indicator status, a label that tells us how likely a plant species is to be found in a wetland.

For example, a plant listed as “obligate” or “OBL” is a wetland dependent plant. A plant listed as “facultative” or “FAC” has an equal chance of being found in a wetland or an upland area. Upland (“UPL”) plant species are almost never found in wetlands. Wetland indicator status of the plants in an area is often used as one way of determining if that area is a wetland.

Adapting to wet soil

Hydrophytes have special adaptations that allow them to grow and thrive in wetland areas with low oxygen and changing water levels. For example, wetland trees and shrubs may have **hypertrophied lenticels** (enlarged pores used for gas exchange in woody plants) on their exposed roots. This **adaptation** allows the plant roots to access atmospheric oxygen during soil saturation or inundation periods, when the roots below the surface have limited or no access to free oxygen in the soil. Some non-woody herbaceous wetland plants like cattails achieve this using hollow stems to deliver oxygen to their roots. Venus fly traps, sundews, and pitcher plants have difficulty absorbing nutrients from saturated areas, so they have a carnivorous adaptation that allows them to trap and digest insects for nutrition. Wetland trees like American elms, water oaks, and cypress trees have buttressed trunks, a bell-shaped adaptation that helps them stay stable in squishy wetland soil!

Diversity of wetland plants

Because North Carolina has so many types of wetlands, there is a great diversity of plant species that can be found throughout the state. Different hydrophytes can tolerate different amounts of water. This allows them to live in different types of wetlands as well as in different parts of the same wetland. Swamp forests are home to many familiar trees like cypress, certain oaks, gums and red maples. Smaller shrubs you might have seen before include wax myrtle, titi, buttonbush, and swamp rose. The greatest variety of wetland plants are herbaceous plants. There are many kinds of ferns (cinnamon, royal, netted chain, etc.), reeds (bur-reed, cattail, soft rush etc.), sedges (especially *Carex spp.*) and grasses. Many broadleaf herbaceous plants (pickerelweed, arrow arum, arrowhead/duck potato, etc.) also live in wetlands. Some wetland plants are only found in one of North Carolina’s areas or wetland types, like the swamp pink plant in North Carolina’s bogs or salt cordgrass in our saltmarshes. The Venus fly trap is a very special plant only found in North and South Carolina wetlands!

Importance of wetland plants

Wetland plants are important for several reasons:

- Their roots prevent soil erosion and stabilize streambanks and shorelines.
- They absorb nutrients like nitrates and phosphates and then recycle them back into the wetland once they die.
- They are a source of food and shelter for the majority of animals in wetlands.



Buttressing of tree trunk in a wetland



Hypertrophied lenticels

SUPPLEMENTAL LINKS

Glossary: <http://www.ncwetlands.org/wp-content/uploads/NCWetlands-Glossary-of-wetland-terms.pdf>

Curriculum: Bio.2.1; EEn.2.4, 1.L.1, 1.L.2, 3.L.2, 6.L.1, 6.L.2

CITATION

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