The World of Wetlands

What is a wetland?

Wetlands are areas where water is **absorbed**, **filtered**, and **stored** in the soil. Wetlands may appear wet all year, just part of the year. Specially adapted plants can grow and thrive in the wetland's moist soil. Wetlands are also home to a diverse range of animals including insects, snails, clams, fish, amphibians, reptiles, birds, and mammals. These ecosystems act as a link between land and water. In North Carolina, there are several types of wetlands that can be found from the mountains to the coast, including salt marshes, freshwater marshes, riverine forest wetlands, and mountain bogs.

Wetlands are a rich source of life

Life in the Riverine Forest Wetland

Riverine forest wetland at Haw River State Park

At Haw River State Park, you can find a riverine forest wetland. The **headwaters** of the Haw River pass through the park. The wetland receives freshwater from rain, **groundwater**, and river overflow. Trees species at the wetland include the overcup oak, red maple, American sycamore, and sweetgum. Other native plants such as spicebush and American groundnuts thrive in the wetland's moist soil. These ecosystem producers provide shelter and food for wildlife. There is so much to discover in the riverine forest wetland ecosystem!

Flora and Fauna

There are interesting plants at Haw River State Park's wetland that have unique relationships with animals. For example, the swamp rose mallow is a caterpillar **host plant** and provides food for 28 species of butterflies and moths. Silky dogwood provides food for various animals: deer and rabbits eat the plant's **foliage**, while songbirds, chipmunks, squirrels, foxes, and skunks eat the berries. Silky dogwood is also the host plant for the spring azure butterfly. Pickerel weed provides shelter for fish in the wetlands, while dragonflies and damselflies lay their eggs on the stems near the water's surface. In addition, seeds of the buttonbush attract 24 species of birds and is a food source throughout the winter.

Azure Butterfly

Dragonfly nymph

Although not as large as other creatures seen at the wetland, there are animals called **macroinvertebrates** that live in the water and **saturated** soil. These animals are large enough to see without the aid of a microscope and they also lack a backbone. If you have ever seen a pond snail, clam, or dragonfly, then you have observed a macroinvertebrate! Found in wetlands and other waterways, macroinvertebrates are **bioindicators,** meaning that their presence can provide information about the ecosystem's health. Different species of macroinvertebrates have varying **tolerance** levels to pollutants in the water, so they can give an **indication** of an area's water quality. Macroinvertebrates are also an important link in the wetland **food chain**. For instance, crayfish and aquatic insects are common foods in mink and raccoon diets.

Life Cycles

Many animals at the wetlands go through **metamorphosis**, including dragonflies and damselflies. Most aquatic insects go through incomplete metamorphosis with 3 life stages (egg, nymph, adult). In the nymph stage, the insects are an immature adult and shed their exoskeleton several times. They get larger with each molt and sometimes growing wings before a final molt when they leave the wetlands.

Importance of Wetlands

Wetlands play a valuable role in the environment. Due to their high water-holding capacity, wetlands can absorb floodwaters and help control flood damage and erosion. Wetlands act as a **buffer** between land and waterways, trapping **debris** and filtering pollutants to improve water quality before water makes its way into creeks, rivers, and the ocean. Additionally, wetlands provide habitats for diverse wildlife and can act as nurseries for young animals, especially fish and shellfish that contribute to our seafood supply. The wetlands are also essential rest stop for **migrating** birds. Let's not forget that wetlands give us an opportunity to enjoy recreation activities like kayaking, fishing, and birdwatching! Wetlands are a great place to observe wildlife and enjoy the sights and sounds of nature!

Wetland scientist using a dip-net to study macroinvertebrates