

## The Lumber River's Unique Blackwater

The Lumber River is a unique blackwater river. The water is not dark because it is dirty. In fact, the Lumber River is very clean. It is dark because so much of the watershed, or land that drains into the river, is a swamp forest. The swamp forest ecosystem is a type of wetland. Scientists describe wetlands by their plants, soils and hydrology. Hydrology is how water moves and most wetlands are covered with water for at least part of the year.



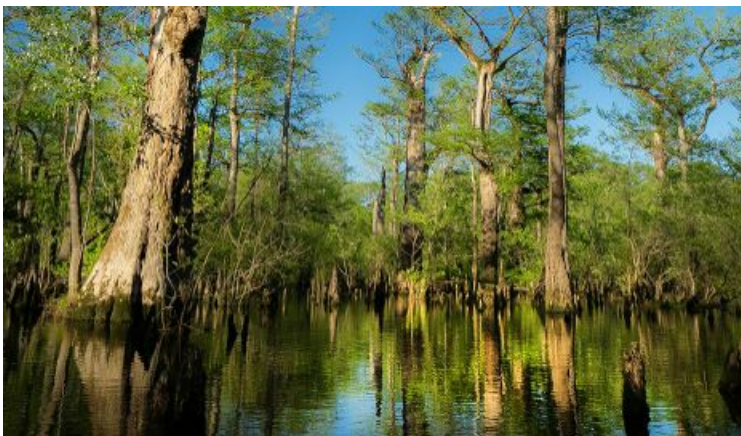
*See the unique color of the Lumber River at the Chalk Banks section of the state park.*

### Forest Tea

The ground in the swamp forest is full of fallen leaves, sticks and roots. Many plants naturally produce chemicals called tannins. The water turns dark as it filters through the decomposing plant material, just like water turns dark when it flows through tea leaves as we make iced tea.

### North Carolina's Oldest and Biggest Living Things

Some of the most impressive producers in the swamp forest ecosystem are the bald cypress trees. Bald cypress trees grow to be the widest and oldest trees in North Carolina. Some bald cypress can grow more than ten feet across and live for more than one thousands years. Bald cypress trees often have structures coming off their roots that look like cones sticking out of the water. These are called cypress knees. Scientists think these knees are adaptations that help the trees survive in wetlands. It may be that the knees help provide air to the roots which would otherwise be underwater. It may be that the spreading knees are an adaption to help prevent trees from toppling over in the wind or a flood. Scientists still do not know all of reasons for these unique adaptations.



*Bald cypress trees are part of a swamp forest along the banks of the Lumber River.*



*Bald cypress knees stick out of the soil.*

## Habitat In Hollow Trees



Wood duck chick cannonballs down from a hollow tree.

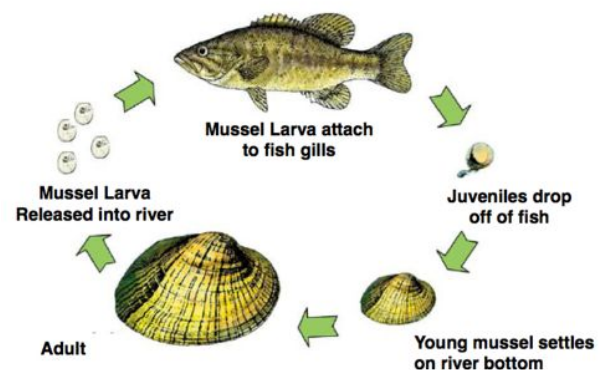
Hollow bald cypress trees in the swamp forest provide habitat for a variety of consumers. Bats and spiders roost in the tree cavities where they can easily feast on thousands of insects of the swamp forest. Wood ducks also nest in hollow trees. A day after hatching, wood duck chicks plunge six feet down from the tree cavity to take their first swim in the river. Raccoons, opossum, lizards and owls also live in hollow trees.



A raccoon peeks out of a hollow cypress tree.

## Life in the River

The river ecosystem is home to a variety of aquatic consumers including freshwater shrimp, mussels, and insects. Freshwater mussels have a strange adaptation for reproducing. The females release tiny larvae into the water. The mussel larvae are parasites, just like ticks. They attach to the gills of fish and draw nutrients from the fish. After several weeks growing, the mussels drop off the fish gills and begin their lives in the sand under the river. In the river, adult mussels consume algae and tiny animals called plankton.



Fish thrive in the Lumber River. Fish have a special adaptation along their sides from gills to tail called a lateral line. The lateral line is like a sixth sense and looks like a line of little pinholes in the scales. The lateral line senses slight water movements that help fish find food and avoid predators, even in the dark-colored water.





*A yellow-bellied slider rests in the sun on a half-sunken log.*

A behavioral adaptation of aquatic turtles is to crawl on logs to sun themselves. Turtles are endothermic, or cold-blooded, which means their body temperature changes with their environment. Basking in the sun helps turtles remain active even if the water is cold. Sunlight also helps the turtles create Vitamin D, which is needed for their shells to grow.

### **Wetlands Have Great Variety of Life**

Many animals along the Lumber River rely on both the forest and the river to survive. Wetlands like the swamp forest tend to be ecosystems with high biodiversity. The great variety of life along the Lumber River makes it especially important to have a state park protecting the river.



*A belted kingfisher sits on a dock overlooking the river.*



*The southeastern United States and the Amazon River Basin in South America are the main places on Earth we find blackwater rivers.*