

A Family of Red-Cockaded Woodpeckers Makes a Home in a Mature Longleaf Pine Tree

(bolded words in text indicate key words and concepts)

Student Information:

While most woodpeckers make their homes in dead trees where the wood is rotten and soft, the red-cockaded woodpecker is the only bird in North America that makes its cavities in living pine trees. In the southeastern United States, the longleaf pine was a favorite tree for the red-cockaded woodpecker to make its home.

Teacher Information:

The relationship of the **red-cockaded woodpecker** to the southern pine forest is one of **specialization**. This woodpecker is very fickle, occupying a very specialized **habitat niche**. All of the other woodpeckers in the southeast **construct** their cavities in snags, while only the red-cockaded woodpecker makes its home in a living pine tree.

Historically, the red-cockaded woodpecker's range extended west to Texas, north to New Jersey and inland to Missouri, Kentucky, and Tennessee. In the southeastern United States, the longleaf pine is a preferred tree to make cavities. However, unlike the outer few inches of soft, **sapwood**, the majority of the inner portion of older longleaf pine trees is made up of very dense wood called **heartwood**. Red-cockaded woodpeckers purposely seek out longleaf pines that suffer from a **fungus** called **red-heart disease**- a fungus which causes the inner heartwood of the pine to rot and become soft enough to construct a cavity. In longleaf pine, trees do not begin to suffer from red-heart fungus until their age averages 80 - 120 years old. Once a suitable, mature tree is found, it generally takes a red-cockaded woodpecker 1-3 years to construct a cavity. Generally these birds will excavate groups of cavity trees in an area (called a cluster).

During the American Revolution, patriots from the south often wore jaunty red feathers or cockades in their caps to show their defiance. The familiar lines from "Yankee Doodle Dandy" - "stuck a feather in his cap" recall this practice. The male red-cockaded woodpeckers have a small patch of red feathers on the sides of their heads that are visible only when they are angry or courting.

In addition to one breeding pair of birds per cluster, male **helper birds** from the previous nesting season help incubate the eggs and raise the young of the next generation. Frequent fires maintain an open and park-like forest preferred by the woodpeckers. These open conditions are very favorable for the production of beetles, ants, roaches, caterpillars, wood-boring insects and spiders (all desired **foraging** material of the woodpecker).

Rat snakes are very agile tree climbers and the primary predators of red-cockaded woodpeckers. As a **defensive behavior**, the woodpecker chips small holes (called **resin wells**) into the bark of the cavity tree. These resin wells cause gum to ooze down the face of the tree. When the scales of the snake come into contact with this **gum**, the snake generally retreats back down the tree.

From the late 1800's to the mid 1900's the red-cockaded woodpecker rapidly declined as it's habitat was destroyed because of logging, agriculture and other land use changes. Because much of the longleaf pine ecosystem has been destroyed, the red-cockaded woodpecker has few areas to make its home. In fact, only about 1% of suitable habitat for the woodpecker is found throughout its former range. In 1970, the species was listed as "**endangered**"-- which means it is in great danger of becoming extinct throughout all or a portion of its range.

The red-cockaded woodpecker once shared its pine forest habitat with the (now **extinct**) ivory-billed woodpecker. Other birds like the passenger pigeon and Carolina parakeet are also extinct. However, there is still hope for the red-cockaded woodpecker. Under the guidance of the **U.S. Fish and Wildlife Service**, some populations are stable or increasing.

Key Words and Concepts: construct, defensive mechanism, endangered, extinction, foraging, gum, habitat niche, heartwood, helper birds, red-cockaded woodpecker, red-heart disease, red-heart fungus, resin wells, sapwood, specialization, U.S. Fish and Wildlife Service.