

RED-COCKADED WOODPECKER

Picoides borealis



Red-cockaded Woodpecker.

STATUS: Endangered

DESCRIPTION: About the size of the common cardinal, the red-cockaded woodpecker is approximately 7 inches long (18 to 20 centimeters), with a wingspan of about 15 inches (35 to 38 centimeters). Its back is barred with black and white horizontal stripes. The red-cockaded woodpecker's most distinguishing feature is a black cap and nape that encircle large white cheek patches.

Rarely visible, except perhaps during the breeding season and periods of territorial defense, the male has a small red streak on each side of its black cap called a cockade, hence its name. The common name came into use during the early 1800's when 'cockade' was regularly used to refer to a ribbon or other ornament worn on a hat. Female RCWs lack the red cockade. Juvenile males have a red 'patch' in the center of their black crown. This patch disappears during the fall of their first year at which time their 'red-cockades' appear.

HISTORICAL DISTRIBUTION AND ABUNDANCE:

RCWs were once considered common throughout the longleaf pine ecosystem, which covered approximately 90 million acres before European settlement. Historical population estimates are 1-1.6 million "groups", the family unit of RCWs. The birds inhabited the open pine forests of the southeast from New Jersey, Maryland and Virginia to Florida, west to Texas and north to portions of Oklahoma, Missouri, Tennessee and Kentucky.

The longleaf pine ecosystem initially disappeared from much of its original range because of early (1700's) European settlement, widespread commercial timber harvesting and the naval stores/turpentine industry (1800's). Early to mid-1900 commercial tree farming, urbanization and agriculture contributed to further declines. Much of the current habitat is also very different in quality from historical pine forests in which RCWs evolved. Today, many southern pine forests are young and an absence of fire has created a dense pine/hardwood forest.

REPRODUCTION AND DEVELOPMENT: The red-cockaded is a territorial, non-migratory species. The RCWs social system is more complex than most species of birds; individuals live in groups normally consisting of a breeding pair and zero to four male (rarely female) offspring from previous years. These offspring, known as "helpers" assist in incubating eggs and brooding and feeding nestlings produced by the breeding pair. The RCW social system is referred to as a cooperative breeding system, that is, the breeding pair receives assistance from offspring in the raising of young.

In mid-April, the female RCW usually lays a clutch of three to five white eggs in the breeding male's roost cavity. Eggs hatch after 10-12 days of incubation (among the shortest incubation in birds) and nestlings fledge from the nest cavity 24-27 days after hatching. RCW nestlings are altricial, that is, they do not have feathers when hatched and their eyes are not open. They require a lot of care from parents and helpers who will feed the nestlings and clean the cavity of waste during the nestling period. In contrast, quail are precocial; they hatch fully feathered and are able to feed themselves when led to food by the parent.

After fledging, the young birds continue to be fed by adults for up to six months at which time the majority of fledglings disperse from the territory where they hatched. Mortality is high (68%) for female fledglings as they disperse to search for breeding vacancies. Male fledglings either disperse or remain on their natal territory to become helpers. Annual mortality is also high (57%) for male fledglings.

Although re-nesting may occur if a clutch or brood is lost, RCWs typically have only one successful nesting attempt annually. Double brooding (two successful nests in one breeding season) has been documented but is extremely rare.

DIET AND FORAGING BEHAVIOR:

The diet of RCWs consists mostly of insects in the egg, larvae and adult stages. These include beetles, ants, roaches, spiders and other insects found in or on pine trees. Fruits and seeds make up a small portion of the overall diet. Methods of foraging include flaking away bark and probing under the bark using their specialized forked tongue to extract insects. Large, older trees are preferred for foraging. In general, males forage on the limbs and upper trunk while females forage on the trunk below the crown. This division of foraging area is most noticeable in winter when

insect numbers are at their lowest and their activity slows due to cold weather, making it harder for RCWs to detect prey. Differences in the foraging behavior of males and females may help to reduce competition between them when food is scarce.

HABITAT: The red-cockaded woodpecker makes its home in mature pine forests. Longleaf pines (*Pinus palustris*) are most commonly preferred, but other species of southern pine are also acceptable. While other woodpeckers bore out cavities in dead trees where the wood is rotten and soft, the red-cockaded woodpecker is the only one which excavates cavities exclusively in living pine trees. Cavities are excavated in mature pines, generally over 80 years old. The older pines favored by the red-cockaded woodpecker often suffer from a fungus called red heart disease which attacks the center of the trunk, causing the inner wood, the heartwood, to become soft. Cavity excavation takes one to six years.

The aggregate of cavity trees is called a cluster and may include 1 to 20 or more cavity trees on 3 to 60 acres. The average cluster is about 10 acres. Cavity trees that are being actively used have numerous, small resin wells which exude sap. The birds keep the sap flowing apparently as a cavity defense mechanism against rat snakes and possibly other predators. The typical territory for a group ranges from about 125 to 200 acres, but observers have reported territories running from a low of around 60 acres, to an upper extreme of more than 600 acres. The size of a particular territory is related to both habitat suitability and population density.

ECOLOGICAL NICHE:

The red-cockaded woodpecker plays a vital role in the intricate web of life of the southern pine forests. Red-cockaded woodpeckers are 'primary' cavity nesters, meaning they are responsible for the construction of cavities. In the southern pine ecosystem there are many 'secondary' cavity users that benefit from the RCWs work. RCWs are considered a 'keystone' species because use of their cavities by these animals contributes to the species richness of the pine forest.

At least 27 species of vertebrates have been documented using RCW cavities, either for roosting or nesting. Species include insects, birds, snakes, lizards, squirrels and frogs. Many of these species, for example wood ducks, only use the cavities that have been abandoned by RCWs; abandonment usually occurs because the entrance tunnel was enlarged by pileated woodpeckers. However, southern flying squirrels, redbellied woodpeckers, redheaded woodpeckers, eastern bluebirds, brown-headed nuthatches, tufted titmice and great crested flycatchers are the species most commonly seen in RCW cavities, and can use normal, unenlarged cavities that RCWs could also use. RCW cavities are a valued resource for many species and competition occurs for their use.