

THE RED-COCKADED WOODPECKER: *An Endangered Species in Golf Country*

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THE AREA around the Village of Pinehurst, North Carolina, and in particular the Sandhills region, is home to the endangered red-cockaded woodpecker (*Picoides borealis*). The Pinehurst golf courses and surrounding residential area have seven active colonies of woodpeckers and approximately 15 inactive colonies.

The red-cockaded woodpecker (RCW) is a federally endangered species endemic to the pine forests of the southeastern United States. This species was formerly common in old-growth pine forests from Maryland to southern Florida, west to eastern Texas, and north to southeastern Missouri and eastern Kentucky.

The RCW excavates its roost and nest cavities in living pine trees that are usually 100 or more years old. An average cavity takes six years to complete. RCWs live in families or *groups* that typically consist of a mated male and female, one or more male *helpers*, and the year's offspring. Helpers are usually sons of the dominant male. They aid in defending the group's territory, incubating eggs, feeding young, and excavating cavities.

Ideally, each group member has his or her own cavity. The cavity trees used by a group are termed a *colony* or *cluster*, and are normally located close together. A typical group of RCWs has a home range of 200 or more acres of pine forest.

Historically, old pine trees occurred on tens of millions of acres in the

Pinehurst golf courses provide habitat for red-cockaded woodpeckers to excavate their nesting cavities. An average cavity can take up to six years to complete.



The endangered red-cockaded woodpecker is a treasured sight to the tenacious birdwatcher.

Southeast. These forests were perpetuated by frequent, low-intensity fires, which maintained the forests in an open, park-like condition. The RCW underwent precipitous population declines as pine forests were cleared for agriculture or converted to short-rotation industrial forestry. The successful suppression and exclusion of woodland fires in the Southeast allowed aggressive hardwood trees to begin to compete with and replace the native forests. RCWs do not persist in hardwood-choked pine forests.

Most RCWs are now found in southern national forests and large military bases. Only 3,000-4,000 groups remain scattered over 13 states. Fifteen viable populations are needed for recovery of the RCW and its removal from the endangered species list, and only one population (in the Appalachian National Forest) is now considered viable.

Although most RCWs now exist on large tracts of government-owned land, some persist on private lands. The largest such population is centered in the golf country around Pinehurst and Southern Pines, in the Sandhills of south-central North Carolina. RCWs occur on several golf courses in this area, as well as in the adjacent residential areas. The woodpeckers have survived, and sometimes thrive, in the golf environment because of the presence of residual old pines,

protection from logging, and the maintenance of open forest edges along fairways, all of which simulate the open, old pine forests in which this species evolved.

More than 25 RCW groups live on golf courses in and around Pinehurst. This number represents more than two-thirds of the RCWs on private lands in this area. Cavity trees are found on tees, next to greens, and even within fairways. These birds have developed a tolerance for low-impact, transitory human activity. Some golf courses have more RCWs residing on them today than occurred in the same area prior to development.

Though the woodpeckers and their cavity trees are strictly protected, they do face some challenges associated with their human-altered

environment. The number of existing cavities is limited and competition for them is fierce. Bird feeders in yards attract unnaturally high numbers of flying squirrels, starlings, and other woodpeckers, all of which are very effective cavity competitors and potential predators on RCW eggs and nestlings. Researchers at N.C. State University have developed metal cavity "restrictors" that prevent access to RCW cavities by larger species. They have proven successful in controlling cavity competition in Sandhills' golf courses.

Another critical innovation in RCW management is the drilled artificial cavity, also developed at N.C. State University. Trained personnel using a drill with special bits can excavate a functional cavity in less than three hours, a big improvement over the six years a RCW would need. Artificial cavities have actually increased RCW populations when placed on golf courses, and will play a critical role in the recovery of this species.

Because the golf environment is relatively stable once construction is complete, the RCW has a future on golf courses throughout the region, particularly where existing populations are close by. Obviously, management must favor retention of the open pine habitat crucial to this species. Landscaping should utilize native pines when replacing

trees lost to lightning, wind, or old age. The area around cavity trees should be kept free of all brush and small trees, and care should be used when applying certain pesticides. Periodic cavity and competitor management may be required.

Safe Harbor Plan

The golf courses at Pinehurst Resort and Country Club will be the first site in the country to participate in the Department of the Interior's "Safe Harbor" habitat conservation plan (HCP) for the red-cockaded woodpecker. This innovative program — officially known as the North Carolina Sandhills Habitat Conservation Plan — will help red-cockaded woodpeckers find safe haven on private lands in the region. It offers landowners an incentive to become good stewards of their property by providing habitat for threatened species like the red-cockaded woodpecker through actions such as installing artificial nest cavities in pine trees. In exchange, landowners receive an ironclad guarantee they will not be subject to restrictions under the Endangered Species Act after they succeed in attracting threatened species to their land.

This Sandhills HCP differs from other habitat conservation plans because it is designed to encourage positive habitat improvements in advance of any specific project that could adversely affect an endangered species. Other plans traditionally have intended to offset some adverse impact to endangered species that occurs as a result of a development already planned. Landowners must sign a cooperative agreement with the U.S. Fish and Wildlife Service to participate.

Golf courses in the Pinehurst area represent an excellent example of how an endangered species can survive and prosper in a highly developed private landscape with minimal conflict with ongoing activities.

In the upcoming months, under the U.S. Fish and Wildlife's "Partners in Wildlife" program, the grounds at the Pinehurst Resort will be audited in a baseline study of RCWs. Recommendations will be made relative to removing undesirable hardwood understory and to locating and installing artificial cavities throughout the golf courses.

Through discussions that began less than a year ago, representatives of the U.S. Fish and Wildlife Service, Department of the Interior, the Environmental Defense Fund, Dr. Jay Carter and Associates, and the Pinehurst Resort and Country Club have put together a program that will enhance the environment for the red-cockaded woodpecker. This program is destined to spread to other golf courses throughout the Southeastern United States and increase viable colonies of RCW for years to come.