

## COMMENTARIES

### THE CONSERVATION CRISIS The Red-cockaded Woodpecker: On the Road to Oblivion?

AMERICAN ORNITHOLOGISTS' UNION COMMITTEE FOR THE  
CONSERVATION OF THE RED-COCKADED WOODPECKER<sup>1</sup>

Since the colonization of North America by Europeans, a taxonomically diverse array of avian species has become extinct. The Labrador Duck (*Camptorhynchus labradorium*), Great Auk (*Pinguinus impennis*), Passenger Pigeon (*Ectopistes migratorius*), Carolina Parakeet (*Conuropsis carolinensis*), and Ivory-billed Woodpecker (*Campephilus principalis*) come to mind. This somber list can be expanded to include subspecies such as the Heath Hen (*Tympanuchus cupido cupido*) and Dusky Seaside Sparrow (*Ammodramus maritimus nigrescens*). Several species currently are, or are thought to be, perilously close to extinction: California Condor (*Gymnogyps californianus*), Whooping Crane (*Grus americana*), Eskimo Curlew (*Numenius borealis*), Bachman's Warbler (*Vermivora bachmanii*), and Kirtland's Warbler (*Dendroica kirtlandii*). Extinction, usually as a result of human activities, has been, and continues to be, a part of American ornithology.

Our purpose is to consider the case of the Red-cockaded Woodpecker (*Picoides borealis*), another continental species that appears to be on a trajectory toward extinction. Although this species has been on the endangered species list and thus legally protected by the Endangered Species Act since 1973, its situation has steadily worsened. The Red-cockaded Woodpecker is the bio-political counterpart in the southeastern United States of the now famous Spotted Owl (*Strix occidentalis*) of the Pacific Northwest. Although the Spotted Owl has received considerable attention from conservationists, the species as a whole is currently in far less danger of extinction than is the Red-cockaded Woodpecker. For somewhat different historical reasons, both the owl and the woodpecker occur primarily on public lands and, in particular, U.S. Forest Service (USFS) lands. The fate of these species depends on how we as a society manage our public lands (Ligon et al. 1986).

Of the factors leading to the endangered status of the Red-cockaded Woodpecker, the single most critical one is its dependence on old, living pine trees for excavation of its nesting and roosting cavities. Potential cavity trees are scarce, simply because most old trees have been cut. In addition, the birds strongly prefer (or perhaps require) open pine woodland. Exclusion of fire in modern times allows hardwoods to

grow; if unchecked, these trees encroach into pine habitat and eventually cause the woodpecker to desert the area. These two factors are the main reasons that, although millions of pine trees exist throughout the South, very few areas are currently suitable for the Red-cockaded Woodpecker. This bird can be viewed as a symbol of fire-maintained old-growth pine savannas, once the dominant ecosystem in the Southeast. Originally, the Red-cockaded Woodpecker was one of the most common birds in this habitat. Now it and other plants and animals of the pine savannas (including Bachman's Sparrow [*Aimophila aestivalis*], see Dunning and Watts 1990) are almost entirely confined to a few small, isolated remnants of this once vast ecosystem.

Despite its legal classification as an endangered species, the status of the Red-cockaded Woodpecker has continued to deteriorate. Dramatic declines in numbers have been documented in some areas (e.g. Connor and Rudolph 1989, fig. 1). In addition, the USFS may have overestimated the number of birds present in other areas. For instance, in the Apalachicola National Forest in northern Florida (the site of the largest remaining population), the USFS estimates that 186 and 507 woodpecker colony sites (clusters of cavity trees) are active on the eastern and western districts, respectively. An independent study by F. C. James and co-workers in the eastern district suggests that the number of active sites is substantially lower. They estimated that only 90 pairs of birds were present in the 1990 breeding season. Clearly, we need to carefully census and monitor this and other critically important populations.

Although most indicators are negative, there is some cause for hope. In the past few years, the USDA Forest Service has begun to implement the legally mandated multiple-use concept of forest management. Several positive trends have emerged. First, there is acknowledgment that stabilization or recovery of Red-cockaded Woodpecker populations has not been achieved (Costa and Escaño 1989); second, small areas of forest around colonies are now being managed specifically to benefit the birds; and third, management methods known to be successful are beginning to be more widely employed. The USFS has implemented prescribed burning and mechanical control to reduce understory encroachment. They are also employing a technique developed by Jeff Walters and his colleagues at North Carolina State University to excavate cavities in living pines. This technique can be used

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to induce formation of new groups in previously unoccupied areas, attract new birds to abandoned territories, and reduce abandonment of existing territories. Preliminary results have been spectacular. Construction of artificial cavities resulted in the formation of 12 new groups in one year in a population in North Carolina that had averaged only one new group per year over the previous 10 years. In the Francis Marion National Forest in South Carolina, nearly 80% of more than 100 artificial cavities were occupied, which greatly reduced the impact of cavities destroyed by Hurricane Hugo (see also Engstrom and Evans 1990).

The Forest Service estimates it will be 20–40 years before additional suitable habitat for the woodpeckers is created by the aging of young trees. Until forests age and management practices more closely coincide with the requirements of Red-cockaded Woodpeckers, the use of artificial cavities may be the principal means to maintain the species. Ultimately, however, the long-term survival of this species depends on availability of suitable habitat that is sufficient to support self-sustaining populations.

Despite this note of cautious optimism, it is important to reemphasize that population trends are consistently downward, and emergency measures are needed now. Concerned citizens, such as readers of *The Auk*, can urge political leaders to support valid environmental issues in general and enforcement of the Endangered Species Act in particular. It is hardly radical environmentalism to insist that politicians oppose any bill that weakens this law and federal agencies responsible for enforcement. This is essential if the Red-cockaded Woodpecker is to avoid extinction. Interested citizens would do well to become involved in the Red-cockaded Woodpecker issue. The legal strategy that will determine the fate of Spotted Owls in the Northwest, and other species elsewhere in the future, is being molded with this issue of Red-cockaded Woodpeckers in the Southeast.

The Red-cockaded Woodpecker can be saved. Compromises will be required, but other USFS activities can continue. Timbering can continue, but large clearcuts and elimination of old growth must be avoided. This will not happen without political pressure and support from the public. Before the world will respond to our demands for much larger compromises elsewhere in the name of conservation, the world is watching to see if we are willing to make these small compromises on our own public land.

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## The Taxonomic Status of the Small Genovesa Ground-Finch in the Galápagos

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The Sharp-beaked Ground-Finch, *Geospiza difficilis*, is the most variable in diet and morphology of the Darwin's finches (Lack 1947; Schluter and Grant 1982,

1984; Grant 1986). It occurs in the highland zone of large central Galápagos islands, where it differs in diet from the morphologically similar Small Ground-Finch, *G. fuliginosa*, which occurs at generally lower elevations. *Geospiza difficilis* is present on low islands only where *G. fuliginosa* is absent (Genovesa, Darwin, and Wolf islands), and its feeding niche is very similar to that of the missing congener (Schluter and Grant 1982, 1984). Lack (1947) suggested that *G. fuliginosa* had competitively excluded or displaced *G. difficilis* wherever they came into contact. Our field studies support Lack's hypothesis, and we attribute

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