

THE DISTRIBUTION AND STATUS OF RED-COCKADED WOODPECKER COLONIES IN FLORIDA: 1969-1978

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The Red-cockaded Woodpecker (*Picoides borealis*), which is endemic to southeastern United States, has been listed as endangered since 1970 (Federal Register 35:16047). The primary cause of its decline is loss of habitat, namely the fire-controlled, *mature* pine ecosystem. Current and accurate inventory of the Red-cockaded Woodpecker is paramount to the successful restoration and management of this species throughout its former range. Recent studies (Jackson 1971, 1979, Jackson et al. 1976, Miller 1978, Nicholson 1977, Wood 1975) report on the distribution and status of the Red-cockaded Woodpecker in some states and localities. The senior author has systematically recorded Red-cockaded colonies throughout its entire range starting in 1967. Early results of this study were reported by Thompson and Baker (1971). The objective of this report is to locate all occupied or recently occupied Red-cockaded Woodpecker habitat during the years 1969-1978, and to list the ownership of the land on which they occur.

The authors are grateful to the many individuals who helped us locate Red-cockaded colonies. We hope this report will stimulate others to look for and report Red-cockaded Woodpeckers. Records of all known active, inactive, and destroyed Red-cockaded Woodpecker colonies are kept at Tall Timbers Research Station, Tallahassee, Florida.

RED-COCKADED WOODPECKER HABITAT REQUIREMENTS AND METHODS

The Red-cockaded Woodpecker is rather habitat specific, which makes an inventory of colonies and populations easier than for many wildlife species. The Red-cockaded requires mature pines: longleaf (*Pinus palustris*), loblolly (*P. taeda*), shortleaf (*P. echinata*), pond (*P. serotina*), or slash (*P. elliottii*) (U.S. Fish Wildl. Serv. 1979). Typical Red-cockaded habitats are characterized by older, open pine stands, a low understory usually maintained by periodic fires, and individual pine trees of large diameter and flattened crowns.

Red-cockaded Woodpeckers use pine trees in a distinctive manner. They select a mature living pine, usually infected with redheart disease caused by the fungus (*Phellinus pini*), in which they dig a 2-inch diameter cavity by chipping through the living sapwood and downward into the softened diseased heartwood. Activities of the Red-cockaded that make the cavity tree distinctive include flaking bark and drilling small wounds ("resin wells") around the cavity entrance. The resulting resin flow gives the tree a glazed appearance which turns whitish with age, and contrasts with the darker surface of the tree bark. Flaking loose bark from the cavity tree gives it a smooth, almost reddish appearance because of the newly exposed, unweathered bark. Usually several cavity trees stand in close proximity. Thus, a colony is the area prescribed by an aggregation of cavity trees habitually used by a family group of Red-cockaded Woodpeckers (U.S. Fish. Wild. Serv. 1979). Although these characteristics

signal the presence of Red-cockaded Woodpeckers, the only valid criteria for listing a colony as active is proof of a nesting attempt. We generally follow the criteria reported by Jackson (1977) to determine status of a colony.

The colonies reported here were located by several techniques most of which rely on observation of trees with characteristics of Red-cockaded Woodpecker activity. Most sites were located by random search of potential habitats and chance encounters from roadside observations. Other methods used include systematic transects in potential habitat and chance observations during forest inventory surveys. Many of the colonies on Eglin Air Force Base (AFB) were located by systematic transects from helicopters. Verification of these was provided by ground crews trained to recognize Red-cockaded Woodpecker cavity trees. Information about other localities of birds or colonies came from the U. S. Fish and Wildlife Service Breeding Bird Surveys and Audubon Christmas Bird Counts. A final technique used comparison of old aerial photographs with more recent photographs to identify potential habitats. These were verified by field inspection for presence or absence of colonies.

RESULTS

A total of 943 Red-cockaded Woodpecker colonies was located in 37 of Florida's 67 counties in the 10-year period 1969-1978 (see Fig. 1). Not included in the total, are 11 colonies known to have been destroyed by man's actions. The authors inspected nearly all of the colonies except those in the Apalachicola National Forest and Eglin AFB where they inspected about half and relied on records from cooperators for the others. Naturally the status of some colonies may have changed during the 10-year period of our study. Additionally, records provided by cooperators may not indicate if a colony was active or inactive. The records at Tall Timbers list 6.5% of the known colonies as inactive at date of last inspection.

The number of active or inactive colonies, by county, are as follows: Alachua, 7; Baker, 14; Bay, 5; Bradford, 1; Brevard, 2; Charlotte, 15; Citrus, 8; Clay, 28; Collier, 5; Columbia, 38; Duval, 3; Franklin, 37; Glades, 2; Hernando, 3; Highlands, 11; Holmes, 1; Indian River, 1; Jefferson, 1; Lake, 5; Leon, 87; Levy, 1; Liberty, 243; Madison, 1; Marion, 28; Martin, 2; Nassau, 3; Okaloosa, 190; Orange, 7; Osceola, 10; Palm Beach, 8; Polk, 13; Putnam, 2; St. Johns, 1; Santa Rosa, 66; Volusia, 5; Wakulla, 63; and Walton, 26. Two additional counties, Gulf and Sarasota, have sight records of the woodpeckers during the study, but no cavity trees were found.

Ten counties, including important areas such as Eglin AFB, Blackwater Forest, Camp Blanding, Apalachicola, Osceola and Ocala National Forests, account for 85% of the 943 colonies. Ownership of the land on which these colonies occur is presented in Table 1. Lands owned privately, while accounting for only 8.8% of the statewide total, have colonies in 29 of the 37 counties. Red-cockaded colonies on private lands are the only known locations in many of these counties. A conservative

estimate of the total population of Red-cockaded Woodpeckers in Florida, using an average of 3 birds per active colony, is 2646 individuals.

CONCLUSION

The Endangered Species Act of 1973 has increased interest in conducting surveys for endangered species on public lands. Yet many of these areas have been inadequately surveyed for Red-cockaded Woodpeckers. Also, although many counties in Florida have little or no suitable habitat for Red-cockaded Woodpeckers, either historically or currently, extensive areas in private ownership still remain mostly unsurveyed.

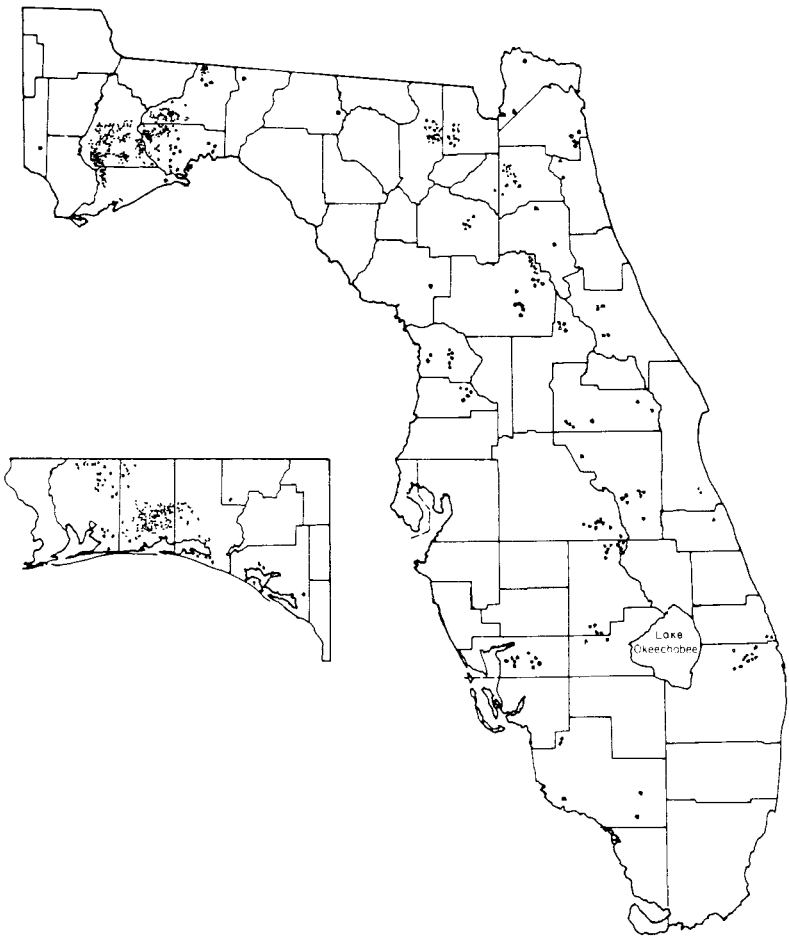


Fig. 1. Red-cockaded Woodpecker colonies in Florida; 1969-1978.

The importance of public-owned lands to the future of the Red-cockaded Woodpecker is made obvious in Table 1. Over 90% of the known colonies are on land controlled by federal, state or city agencies. Careful timber management on these lands is of critical importance to the survival of the species.

TABLE 1. Land ownership of Red-cockaded Woodpecker colonies in Florida.

Land ownership classification	Number of colonies ^a	Percent of total
Publicly Owned Land		
National Forests	486	51.5
Ocala	33	3.5
Osceola	51	5.4
Apalachicola	402	42.6
Military Bases	292	31.0
Camp Blanding	28	3.0
Eglin A.F.B.	243	25.8
Avon Park	21	2.2
National Wildlife Refuges		
St. Marks	3	0.3
National Parks		
Big Cypress	2	0.2
State Wildlife Management Areas ^b	27	2.9
Corbett	8	0.9
Webb	14	1.5
3-Lakes Ranch	5	0.5
State Forests	39	4.1
Blackwater	28	3.0
Carey	1	0.1
Withlacoochee	10	1.0
State Parks	6	0.6
Ochlocknee River	1	0.1
J. Dickinson	2	0.2
Collier-Seminole	1	0.1
Tosohatchee	1	0.1
Prairie Lakes	1	0.1
Other	5	0.5
TOTAL	860	91.2
Privately Owned Land		
Timber Companies	16	1.7
Other	67	7.1
TOTAL	83	8.8

^a Active and inactive.^b Fee title areas only.

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NOTES AND NEWS

Fall 1980 meeting.—Daytona Beach, Florida, 9-11 October 1980. Carleton Smith, Daytona Audubon Society, local committee chairman.

Spring 1981 meeting.—Tallahassee, Florida, 24-26 April 1981. W. Wilson Baker, Tall Timbers Research Station, local committee chairman. Wilson will try to make this a joint meeting with the Georgia Ornithological Society and/or the Alabama Ornithological Society.

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