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## HABITAT ACREAGE REQUIREMENTS OF THE RED-COCKADED WOODPECKER

By T. A. Beckett, III

The Red-cockaded woodpecker (*Dendrocopos borealis*) is one of numerous species of wildlife in habitat trouble. It is still considered common by some knowledgeable persons but it should remain on the endangered list. There is no species that we can more safely state is headed for extinction than this highly specialized and localized woodpecker. The main factor working against continuing this bird on the endangered list is the ease with which it may be found due to its habitat.

The Red-cockaded is a non-migratory species. It is sedentary in that individuals may be found for several years within a rather small area. My current studies indicate that the species has a relatively long life in favorable habitat. One of the most perplexing questions currently needing answering is - what is the minimum habitat in which the species can exist? This paper will not attempt to furnish any of these answers but will simply show that a certain number of clans of birds are found in an area that meets the need to isolate them from possible intrusions by adjacent birds.

This study represents a small segment of over 3 years' work in locating over 200 clans, study information from about 300 trees, and color banding about 200 birds. I know of no other North American species of bird that can be handled under wild conditions on a year-round basis as the need arises. I know of no other species about which so little information is in print and even that small amount is often in error.

The nomenclature used in this manuscript follows the proposed terms set forth in the published Symposium on the Red-cockaded Woodpecker, Bureau of Sport Fisheries and Wildlife, 1971, edited by R. L. Thompson.

To date there has been no factual information regarding the support timber and habitat needed by the Red-cockaded woodpecker in relatively "natural habitat." I know of no primitive areas, not altered by man, on which a study of this type might be based. It is true that possibly 1 or 2 colonies might be selected in isolated areas but these would be far from the type conditions under which the species came into existence.

This study is based on banding and observation periodically on a year-round basis covering a little over 3 years. Some first

hand information regarding surrounding habitat and former clans dates back over 20 years. The tract limits itself to ready incursions by other members of the species by the surrounding vegetation. All highway and road names and numbers have been purposely deleted from the small scale map so that abnormal visits by birders might be kept to a minimum. They are available for any ornithologist seriously interested in the species for study purposes.

The study area is in a National Forest and follows most of the guide lines formulated by Melvin Hopkins and T. E. Lynn, Jr. in the previously mentioned symposium publication. Some suggestions are followed closely whereas others, such as raking around the base of hole trees, appear to be ignored. No attempt will be made to bring out changes that need to be made if the species is to remain with us as a living bird. In fact we only know that changes must be made but have little knowledge of minimal needs.

The area receives prescribed burning, a necessity to maintain habitat, and periodic thinning. Logging is restricted in hole tree areas to the non-breeding seasons. In general the district foresters show a great deal of interest in preserving the Red-cockaded woodpecker. The loggers, "stumpers", and those holding "dead tree" permits are another matter. Their activities in and around hole trees need much greater control. Holders of "dead tree" permits have destroyed several clans.

Some critics may say that this study area is not normal habitat and should not be the basis for a population study, but I can assure them that the species, with very few exceptions, exists today over most of its present range under these rather artificial conditions. Due to ecological claims of air pollution even the needed periodic controlled burning is in danger of being banned. There can be little question that the current selective cutting has a tendency toward even aged management.

The area selected for this attempt to determine roughly the acreage needs was relatively isolated by the surrounding habitat. It contained 13 clans, composed of 70 Red-cockaded woodpeckers, 52 of which were color banded. To date there has been no evidence of any influx of birds from adjacent clans. From observations it was concluded that clans 12 and 13 spent roughly half of their feeding efforts across adjacent roads. They were both small clans, averaging over the 3 years period from 3 to 5 birds each. If we assume their habitat acreage requirements were equal we can eliminate one clan

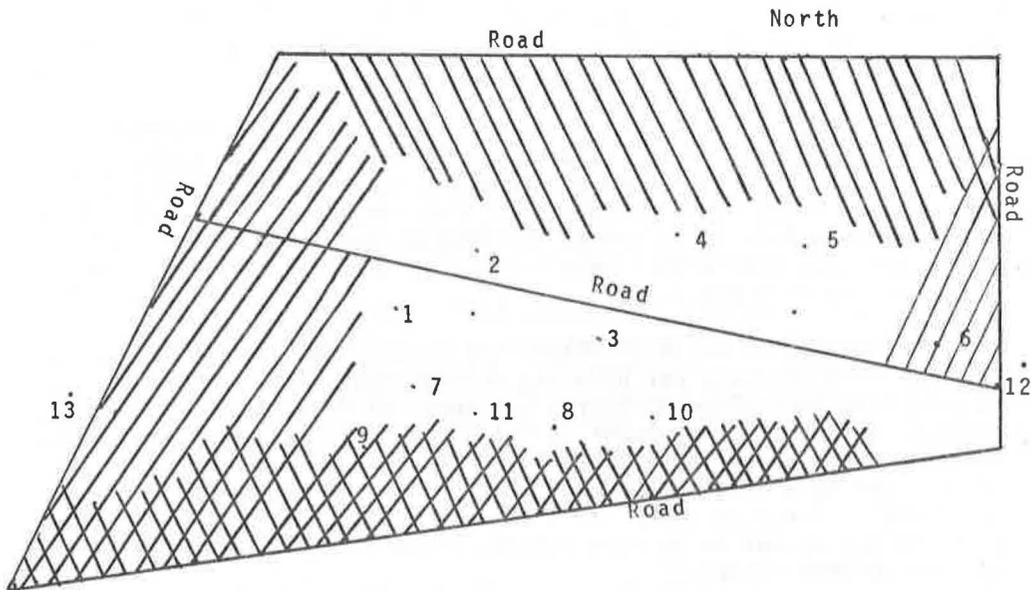
and confine our study figures to deal with the acreage needs of 12 clans. The areas B are almost completely void of any mature timber although they did contain clans of Red-cockaded in past. On the south there is an excellent stand of mature pine and hardwoods designated C. This tract of timber, until the winter of 1971, had a thick understory that did not support Red-cockaded use for hole sites or feeding purposes. An excellent controlled slow burn in 1971 has opened up the understory and I assume the Red-cockaded will gradually move into the area. This tract is not a part of the National Forest.

The observed feeding areas of the study site comprise roughly 2560 acres, offering about 213 acres per clan. The total number of hole trees is about 70. Some of these are relic trees, no longer in active use. Other trees contain more than one hole and in some instances each hole is in use by roosting birds. Some trees, in the count, are only starts that have been in the process of excavation from 6 months to 5 years.

An average of about 60 birds feed in the tract, allowing slightly over 40 acres per bird for subsistence. Some observed feeding does take place in cyprus and hardwood areas although a full picture of the part they serve in the habitat use has never been obtained. One cyprus tree in another area has at least been regularly used as a roost hole, and possibly for the rearing of a brood. Other cyprus trees in other sites do show evidence of use by the Red-cockaded but appear to be more readily taken over for use by other species of woodpeckers.

From observation it is known that Red-cockaded woodpeckers can and do feed in small timber, 4 to 8 inches, particularly should a "hot burn" occur. A "hot burn" is a site where the temperature of the fire is so hot that many trees are killed or severely weakened. They are sometimes wild fires, but most often environmental conditions are not right or suddenly changed after the intended slow burn is set. These sites continue to offer high grade feeding areas for long periods of time as weakened trees continue to die.

There is no known way to measure the need for extended range acreage, as the number of trees are reduced through cutting over a long period of years. It is true that remaining trees continue to grow and expand in trunk diameter, but we must consider that some of the most favorable relic trees used for securing food are among the first marked for cutting.



SWAMP AND HARDWOODS

YOUNG PINE 4 to 12" diam.

LARGE PINE AND HARDWOODS WITH  
ENVELOPING UNDERSTORY

From current literature we can readily understand that any conclusions drawn from habitat acreage needed in this particular study site would not necessarily apply to other sites, such as some marginal areas of Florida or Texas. We do not, in fact, have a picture of what an optimum habitat consists. We can safely state that thinning of trees beyond a certain minimum will cause abandonment and abnormal predation in a clan.

One of the greatest problems in the study of the Red-cockaded woodpecker continues to be the fact that there is no species which approximates its life history. New questions continue to arise that have no parallel in the literature. Many of its current habits are possibly relic in origin and no single answer will suffice in its current habitat utilization.

The greatest single need today is for our federal government to set aside, on public lands, areas to be manipulated for optimum use by the Red-cockaded woodpecker. These areas should be available for scientific study and possible manipulation to gain knowledge of minimal requirements of the species. If the Red-cockaded woodpecker is to survive in the current projected 25 to 30 year clear cut rotations that are in use on so much of our pine land in the south today, it needs help. I, for one, believe that this is highly possible and have some field observations that will support this line of thought.

--Rt. 4. Charleston, S. C. 29407

OPERATION WINDOW-TRAP: How to do your Thing, Bit by Bit,  
or Confessions of a Small-time Bander.  
By Maurice Broun

It was early December, 1971. The birds were having a ball. Everywhere I looked my feathered guests were swirling from feeder to feeder. A bander's dream. Great potential for large-scale banding. But I had decided, earlier, to put off my usual commitment to winter banding.

A few days passed. The well-stocked feeders (eight altogether) became more heavily patronized. Birds attract birds and our farm, with its hedgerows, weed-covered fields, abundant cover, has been an oasis for wildlife. The nearest feeding station, a mile distant. No competition. Then I had second thoughts, and the