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## Red-cockaded Woodpecker Investigations

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PERFORMANCE REPORT

STATE: VIRGINIA PROJECT NO.: W-77-R-4  
PROJECT TYPE: Research and/or Survey STUDY NO.: XIV  
PROJECT TITLE: NONGAME AND ENDANGERED WILDLIFE INVESTIGATIONS JOB NOS.: A-C  
STUDY TITLE: RED-COCKADED WOODPECKER INVESTIGATIONS  
JOB TITLE: DEVELOPMENT OF A LAND MANAGEMENT STRATEGY FOR THE PRESERVATION OF THE RED-COCKADED WOODPECKER IN VIRGINIA

PERIOD COVERED: July 1, 1986 - June 30, 1987

JOB XIV-A OBJECTIVE: Define the essential habitat parameters for the Red-cockaded woodpecker in Virginia.

JOB XIV-B OBJECTIVE: Develop a management system from an economic viewpoint and compare the system with the management plan recommended for the protection of this species.

JOB XIV-C OBJECTIVE: Map and permanently label all cavity trees in active clan sites.

SUMMARY:

Extensive monitoring has revealed eight sites with Red-cockaded woodpecker adults present in the State of Virginia. Observations of three successful nests producing six young have been made at three sites in Sussex County.

Essential boundaries were determined for five active sites in Sussex County. All five sites were posted with signs to prevent accidental logging.

Necessary steps have been taken to bring together the expert manpower and computer software to develop a timber management and a habitat management integration for the Red-cockaded woodpecker.

Mapping and tagging of the active cavity trees in all of the known active Red-cockaded woodpecker sites has begun.

HABITAT PARAMETERS

The Red-cockaded woodpecker (Picoides borealis) is an endangered species whose range extends throughout the southeastern United States. This woodpecker is at the northeastern most portion of its range in southeastern Virginia, and, at present, the known population is small and steadily declining.

This woodpecker species is distinctive and specialized. It has an advanced social system that includes cooperative breeding efforts and communal foraging behavior. The Red-cockaded woodpecker lives in a group called a clan which may have from two to nine members but never more than one breeding pair. A clan nests and roosts in a group of cavity trees called a colony. The excavation of nesting and roosting cavities in living mature pines is an additional unique characteristic of this species.

Active monitoring of the Virginia population began in 1976 and has continued to the present. Throughout this period the population has steadily declined to only 24 known birds. The reason for the drastic population decline is the apparent encroachment on its remaining habitat and changing forest management practices. At the present rate of decline, this species will be extirpated in Virginia within a few years unless ways can be found to provide the species with adequate habitat and, at the same time, provide the lumbering industry with options to economically utilize the same forested areas.

During this reporting period all nine active Red-cockaded woodpecker sites were monitored. The areas monitored include: Sussex County, City of Suffolk, and York County. Red-cockaded woodpeckers were observed at eight of the nine sites at some time during the year. The accompanying table summarizes the status and population of the red-cockaded woodpecker for 1987. Three of the eight clans did successfully breed. The nest trees were climbed to determine the number of young present and to obtain data on cavity height, cavity diameter, and DBH of the cavity trees. A total of six young were found. Of the active sites in Sussex County, five are on Gray Lumber Company tracks of land (site numbers 1-5). Three of these five sites contained the clans that produced all the young. The other two sites (site numbers 6 and 7) in Sussex County are on Union Camp property. Birds were observed on only one of these two areas (site number 6). The other (site number 7) remains intact however no birds were observed. The City of Suffolk (site number 8) is owned by Perry Lumber Company. Two birds were observed there in late winter, but no evidence of nesting was observed during the breeding season. The York County site (site number 9) is in a residential area and only one bird was observed through early spring. No evidence of nesting was observed.

During this reporting period each of the three general geographic areas involved in the study were visited on the following schedule: September through February--monthly; March, April, and August--weekly; May and June--biweekly. A total of 88 days, over 1500 man-hours, and approximately 4000 miles of travel were expended in this segment of the project. The field staff

involved in this monitoring effort included: Tom Armour, Ian Barton, Jamie Doyle, Kelly Payne, and David Schoct.

A determination of Red-cockaded woodpecker habitat in terms of the actual acreage required for roosting, nesting, and year round foraging needs was completed for the five Gray Lumber Company sites in Sussex County. All five sites incorporate a total of 3280 acres. At the request of Gray Lumber Company the areas were marked with signs provided by the Virginia Department of Game and Inland Fisheries which indicated the sensitivity of the areas and requested no cutting or logging. This posting was necessary to prevent accidental logging which had occurred in the past.

The perimeter of each of these sites was marked at approximately 100 foot intervals. Four field assistants expended a total of 500 man-hours during July of 1986. This marking effort has been successful in that the areas have remained undisturbed.

Dana Bradshaw, a graduate student of the College of William and Mary, is proceeding with the analysis of home range requirements of the Red-cockaded woodpecker for a Master's Degree thesis. His work will further define the habitat parameters.

In the summer of 1986 the chief forester of Gray Lumber Company verbally stated that cruise information on the areas containing active woodpecker sites would be made available to this project. This cruise data would have provided the volumes and age/size distribution of loblolly pine timber on each of the tracts of concern. Such data is crucial to the development of any set of realistic management options for the protection of this species and the harvesting of timber products. However, in June of 1987 the chief forester of Gray Lumber Company stated that the company would not release this information because of its proprietary nature. On the other hand, the chief forester indicated that Gray Lumber Company would not object to an independent cruise effort by individuals associated with this Project.

Because of the change in position of Gray Lumber Company, considerable unplanned manpower must now be expended to obtain this information. Initial steps have now been taken to obtain the required manpower and expertise from Virginia Polytechnic Institute and State University to accumulate the necessary timber cruise data.

#### MANAGEMENT

The unique biological characteristics and specific habitat requirements of the Red-cockaded woodpecker have placed them in a losing conflict with the current lumbering practices in southeaster Virginia. Even though this species is protected, in principle, by Federal statutes under the Endangered Species Act of 1970, foraging areas along with nest and roost trees continue to be destroyed throughout its range. In some cases habitat is lost simply because



the woodpecker's existence and/or special status is unknown, but, in most others, the protection of a woodpecker is not a factor in the economic equations of timber production. It would appear that if this species has any hope of survival in Virginia, practical management strategies must be developed both to provide suitable habitat for the woodpeckers and to permit acceptable economic return for the lumber industry.

As one objective of this project, several management plans designed specifically for Red-cockaded woodpecker habitat on Gray Lumber Company property will be developed in cooperation with the Department of Forestry at the Virginia Polytechnic Institute and State University. Drs. Harold E. Burkhart and Harry L. Haney, Jr. will have the responsibility to obtain timber cruise data on the five active clan sites located on Gray Lumber Company property. They will then use this data in the development of computer models for timber management on each clan site. Each model will then be tested and compared with the actual habitat requirements for individual clans. The end product of this effort will be a set of timber management options to be presented to Gray Lumber Company in June 1988.

Because the problems of the Red-cockaded woodpecker are not unique to the State of Virginia, the advice and expertise of other active researchers who have studied various aspects of this species and the problems it faces have been sought. Currently, Dr. Steven Seagle of the Biological Research Laboratories at Syracuse University, Syracuse, New York, and Dr. Richard Lancia of the Department of Forestry and Zoology at North Carolina State University, Raleigh, North Carolina, have agreed to act as informal consultants to this project. Both Seagle and Lancia have worked with Red-cockaded woodpecker habitat analysis and the integration of timber management with Red-cockaded woodpecker habitat management. Both researchers have published recently on the results of their work on this species.

#### PERMANENT MARKING OF CAVITY TREES

In order to properly prepare for future management operations all cavity trees in the know active colonies require permanent identification. In addition accurate positional data (latitude/longitude coordinates and/or Virginia state plane coordinates) for each clan is required for proper marking of Topographical charts.

The active cavity trees have been determined for each active colony. The task of tagging each tree will begin during the fall of 1987 and continue through the spring of 1988. Each tree will be assigned a unique number and will be permanently marked with standard aluminum tags used in the lumbering industry.

A computer file containing the location and identification of each tagged tree will be generated and supplied to the Virginia

Department of Game and Inland Fisheries at the completion of this project.

TARGET DATE FOR COMPLETION: Continuing

STATUS OF PROGRESS: On Schedule

SIGNIFICANT DEVIATIONS IN PROGRESS: Cruise Data denied this project by Gray Lumber Company

RECOMMENDATIONS: Continue with Remaining Project Plans

COST THIS SEGMENT: Total: 10,000 State: 2,500 Federal: 7,500

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DATE: July, 1987