

Comments on Herbicide Injection for Habitat Maintenance  
of Red-cockaded Woodpecker Colonies

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The Red-cockaded Woodpecker (Picoides borealis), an endangered species, inhabits mature pine stands of the Southeastern United States. This bird prefers open stands of basal area of 50 or 60 square feet per acre (Hopkins, 1971). To achieve this open environment the basal area around this birds' live cavity trees is sometimes reduced through injection of herbicides into the understory species. This method of habitat maintenance is one option suggested by the Red-cockaded Woodpecker Recovery Plan (Jackson et al. 1979).

A possible problem has arisen with this particular recommendation. After injecting small loblolly (Pinus taeda), and shortleaf (P. echinata) pines, the trees go through a weakened stage as they slowly die. Such trees are particularly attractive to southern pine beetles (Dendroctonus frontalis) (Anderson 1960).

Injection of loblolly and shortleaf pines in 7 Red-cockaded Woodpecker colonies was begun in June 1979 on Bienville National Forest in central Mississippi. By August, 7 cavity trees (22%) within these colonies had been seriously infested by the southern pine beetle. In 21 colonies where understory trees were not injected, 12 trees (10%) were lost between October 1978 and August 1979 to this insect. Red-cockaded Woodpecker cavity trees are also possibly weakened and under stress due to cavity and resin well excavation by the birds and thus more susceptible to beetle attack.

These weakened understory pines could contribute to the loss of cavity trees by allowing population increases of southern pine beetles within the colony. Perhaps this method of habitat maintenance should be reevaluated. Cutting and removal of understory pines, also suggested by the Recovery Plan, would seem to be a safer method of understory control. The understory hardwoods could continue to be injected since pine beetles are not attracted to them.

This study was done while I was a summer employee of the U.S.D.A. Forest Service on the Bienville National Forest. I appreciate the support and interest shown by my supervisors, Tom Darden and Don Shumaker.

Literature Cited

- Anderson, R.F. 1960. Forest and shade tree entomology. John Wiley & Sons, Inc., New York.
- Hopkins, M.L. 1971. Some characteristics of red-cockaded woodpecker cavity trees and management implications in South Carolina. Pp.

140-169 in The ecology and Management of the Red-cockaded Woodpecker (R. L. Thompson, ed.). Bureau of Sport Fisheries and Wildlife, U. S. Dept. Interior, and Tall Timbers Research Station, Tallahassee, Florida.

Jackson, J.A., W.W. Baker, V. Carter, T. Cherry, and M.L. Hopkins, 1979. Recovery plan for the Red-cockaded Woodpecker. U. S. Fish and Wildlife Service, Atlanta, Georgia.

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#### REVIEWS

Ducks, Geese, and Swans of the World. By Paul A. Johnsgard. University of Nebraska Press, Lincoln, 1978: 404 pp., more than 150 line drawings, 132 distribution maps, 59 color plates. \$35.00.

This profusely illustrated volume will be of interest to anyone interested in waterfowl. The text provides alternative names for each species, summaries of basic life history information, and distribution maps for each species. The latter, unfortunately, are sometimes erroneous - at least as far as Mississippi is concerned. When are waterfowl biologists going to recognize that the Oldsquaw regularly winters on the Gulf coast and doesn't limit its winter range to the Great Lakes and the northeast Atlantic coast? Similarly we have had records of all three species of scoter on the Mississippi coast, yet none are indicated to occur anywhere near. In spite of these distributional short-comings, this is a well-written book that deserves a place in better libraries.-- J. A. Jackson.

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The Peregrine Falcon. By Derek Ratcliffe. Buteo Books, P.O. Box 481, Vermillion, South Dakota, 1980: 416 pp., 4 color plates, numerous black-and-white photographs, drawings, and maps. \$42.50.

The Peregrine Falcon became a symbol of environmental problems only a few years ago and today it can be a symbol of how man has overcome some of those problems. Derek Ratcliffe expertly writes of the Peregrine and its problems and includes a wealth of basic information about the species in this book. The illustrations, including the paintings by the author, are well done and contribute much to the book. While the major emphasis of the book is on British and European populations, the extensive literature review includes major North American studies. Extensive appendices include data on vocalizations of Peregrines, population statistics, and pesticide levels in birds. This is a fine contribution and very interesting reading.-- J. A. Jackson.