Red-Cockaded Woodpecker Habitat and Timber Management: Production Possibilities[1]

Joseph Roise, *Department of Forestry, NCSU, Raleigh, NC 27695;* **Joosang Chung,** *Department of Forestry, NCSU, Raleigh, NC 27695;* **Richard Lancia,** *Department of Forestry, NCSU, Raleigh, NC 27695;* **Mike Lennartz,** *USDA Forest Service, Southeastern Research Station, Clemson University.*

ABSTRACT. To mitigate possible negative effects that financial timber rotations for southern pine may have on habitat requirements for red-cockaded woodpeckers, alternative management strategies are investigated using multiple objective linear programming (MOLP). Time streams of timber and habitat are examined. The consequence of providing areas with potential cavity trees on production of timber is explored. Management actions which immediately set aside large areas of land for woodpecker habitat without concern for future changes can lead to short-term increases in habitat that are followed by habitat declines after several decades. Management actions designed to restructure the forest to achieve a long-term sustainable habitat level may initially have a slower increase in habitat, but without subsequent declines.

South. J. Appl. For. 14(1):6–12.

A successful effort to protect red-cockaded woodpecker (*Picoides borealis*) habitat must look at long-term changes in forest age-class structure. Simply setting aside forest area for habitat fails to recognize the dynamic nature of forests. Habitat conditions change over time with or without intervention by man, and changes caused by man can produce favorable or deleterious affects on habitat quality for red-cockaded woodpecker.

The red-cockaded woodpecker is an endangered species inhabiting southern pine forests from Maryland to eastern Texas (U.S.

[1] Funding for this study was provided in part by the Department of Energy, Savannah River Plant Operations Office, the USDA Forest Service, Southeastern Forest Experiment Station, and the Forestry Department, North Carolina State University.