

Wigeon (*Anas penelope*) in Norfolk, England, where each species pirated algae from the other. Brant may also follow oyster dredges that pull up eelgrass and other plants (Palmer 1976).

The large concentration of coots at Lake Wallace and a visible and abundant food supply of green algae, the Brant's favorite food, allowed the Brant to have an extended stay at Lake Wallace, S. C., which included a return to the site after an absence of about three weeks. In the two extralimital N. C. localities, where coots were absent or scarce, kleptoparasitism could not be used as a successful foraging strategy.

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## An Unusually Small Red-cockaded Woodpecker Cavity Tree

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We found an unusually small Red-cockaded Woodpecker (*Picooides borealis*) cavity tree at the Santee National Wildlife Refuge, Clarendon County, South Carolina on 14 November 1990.

The cavity tree was a shortleaf pine (*Pinus echinata*) located in the Pine Island Unit on the edge of Lake Marion. This tree was part of a colony of predominantly loblolly pines (*P. taeda*) that had been damaged by Hurricane Hugo the preceding fall. According to assistant refuge manager Jerry Frengeli, several Red-cockaded cavity trees were blown down or snapped off by the hurricane. Although no Red-cockaded Woodpecker were present during our visit, the cavity tree had active signs of woodpecker use.

We measured the height and dbh (diameter breast high) of the cavity tree with a Sunto clinometer and measuring tape. The tree was 11.9 m tall and 17.5

cm dbh. the cavity itself, which faced southwesterly, was 3.5 m high. The diameter of the tree at cavity height was estimated to be 15 cm. We were not able to determine tree age but the average minimum age of southern yellow pine (other than longleaf [*P. palustris*]) for Red-cockaded cavity use is about 75 years (U. S. Fish and Wildl. Serv. 1985). We felt that the cavity tree, based on its form and crown shape, had been severely suppressed and was older than its size suggested. Conner and O'Halloran (1987) found that suppression was characteristic of Red-cockaded cavity trees in eastern Texas.

This tree was significantly smaller than hundreds of Red-cockaded Woodpecker cavity trees we have observed over the years. Shortleaf pine is an uncommon Red-cockaded cavity tree but Hopkins and Lynn (1971) reported average measurements of 59 loblolly pine cavity trees from adjacent Williamsburg County to be 45 cm dbh (range 33–60) and 28 m high (range 19–28 m). Of a total of 381 cavity trees (all pine species) measured statewide by Hopkins and Lynn, the smallest diameter breast high was 25 cm and the shortest height was 14 m.

Hooper, et al. (1980) gave a range of Red-cockaded cavity chamber dimensions as 15.2 to 25.4 cm deep and 7.6 to 12.7 cm wide. Red-cockaded normally excavate cavity chambers in trees with adequate heartwood so as to avoid pine resin contamination from the sapwood. When accounting for bark, sapwood, and chamber dimensions, it appears that our cavity tree approaches minimum size to provide a cavity for Red-cockaded Woodpeckers.

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