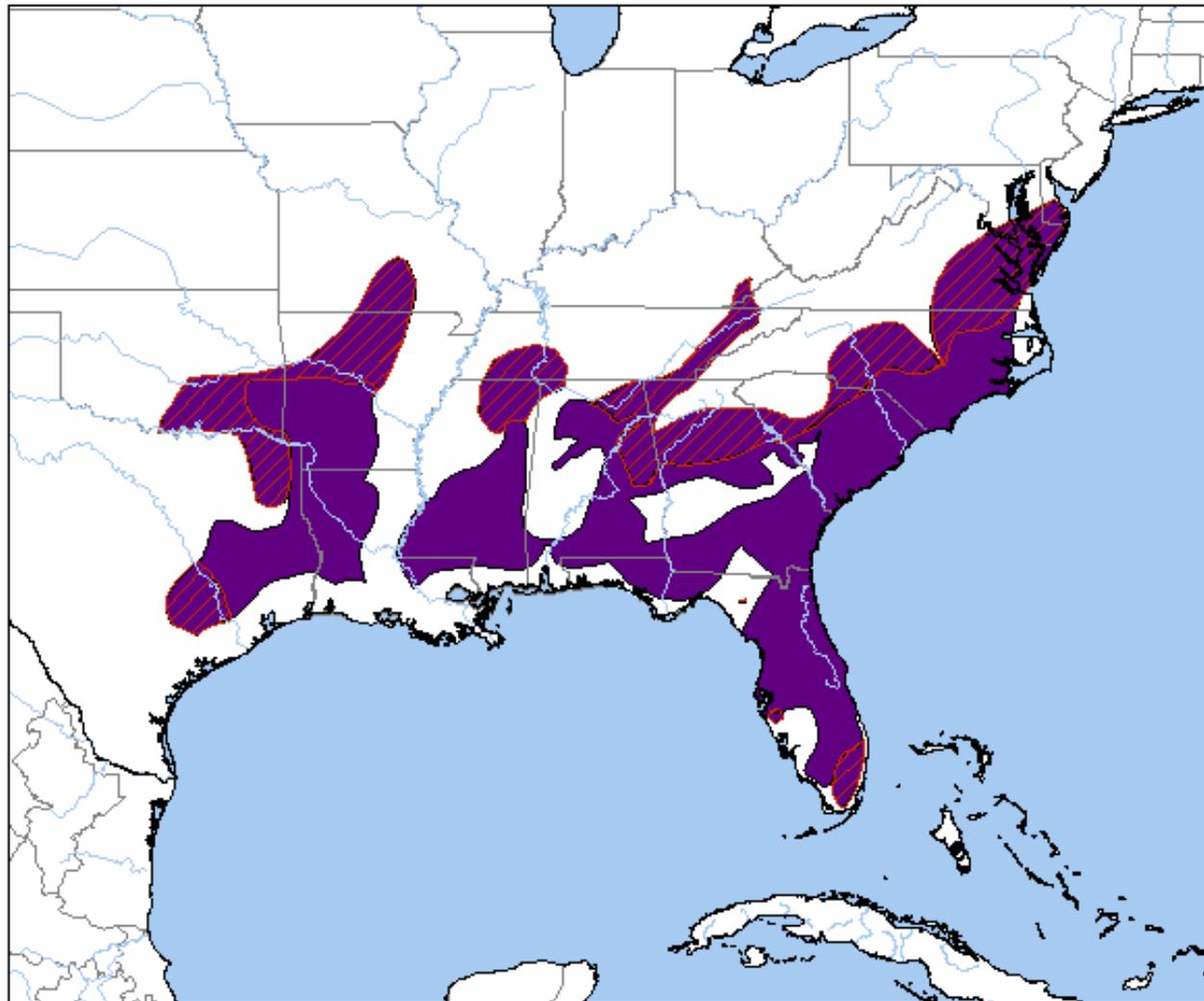


The
Red-cockaded Woodpecker:
Biology, Ecology, Management

Red-cockaded Woodpecker



A federally endangered bird that inhabits fire-maintained, mature pine savannas and woodlands



750 0 750 Kilometers

- Permanent Resident
- Breeding Resident
- Nonbreeding Resident
- Passage Migrant
- Uncertain Status

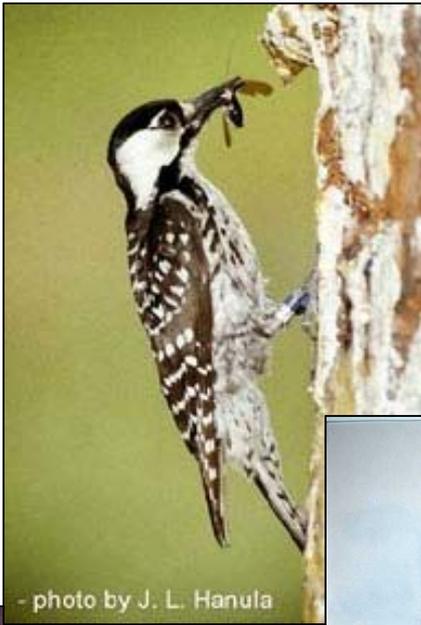
- Introduced
- Vagrant
- Extirpated
- Historical Records Only

- National boundary
- Subnational boundary
- River
- Water body



Map created September 2003

WOODPECKERS



- photo by J. L. Hanula



Photo by J. A. Spindelov



J. Atroc and P. Moss



Photo by J. A. Spindelov



Photo by A. Wilson



Barry Vandusen



Habitat Preference: Longleaf Pine Savannas



Pine Savannas typically have a pure pine canopy, an open midstory, and a grassy understory with varying abundances of shrubs

Reasons for Rarity



Habitat Loss in late
1800s/early 1900s

Fire Suppression in
remaining/regenerating
habitat



Effects of Fire Suppression



Hardwoods grow into the midstory.....

....and eventually the overstory creating a pine-hardwood forest

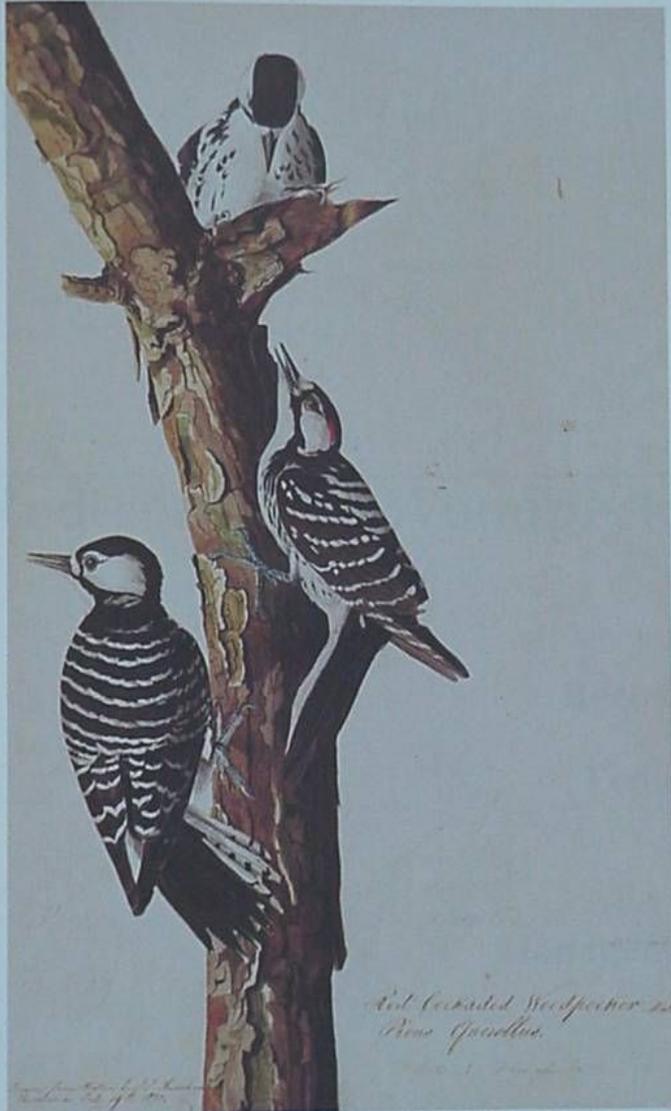




Encroaching hardwoods cause
RCWs to eventually abandon
their cluster site



- The RCW is the only woodpecker that excavates its cavity in a bole of a living pine tree
- Tree must be older than 60 years to excavate cavity



Red-cockaded Woodpecker by John James Audubon, (1821), watercolor, graphite gouche, black crayon, accession number 1863.17.389. Collection of the New York Historical Society

- RCWs live in clusters of multiple cavity trees
- RCWs typically live in groups of 3 or more birds
- A group consists of a breeding male and female and helpers
- Helpers are typically sons from previous year's nests
- All members of the group participate in raising the nestlings, defending the territory, and maintaining the cluster

The Cluster



- aggregate of multiple cavity trees occupied by a group of RCWs
- may include a few to many cavity trees
- cavity heights vary depending on the habitat
- RCWs occupy their cluster year-round

Categories and Characteristics of Cavity Trees: Stage of Development and Activity Status

Start Holes: the beginning of a cavity





An Advanced Start Hole:
Notice characteristic
stream of fresh resin
exuding from lip of entrance
hole, a circular entrance,
and no resin wells yet

Active, completed cavity: key characteristics

- Reddish underbark showing at resin wells and plate
- Symmetrically shaped cavity entrances - not oval or rectangular - about 2 inches in diameter
- Clear, flowing sap
- Bark scaling above and below cavity, particularly new cavities



Inactive, completed cavity: key characteristics

- Entrance hole is still symmetrical and cavity is probably still usable
- Resin wells are less visible and no reddish underbark is visible
- No flowing sap or sap that is present has an amber color
- Sap accumulated on bole has a grayish cast or has darkened



Enlarged, Abandoned Cavities: no longer provide shelter for RCWs but are used by other creatures



Private Lands Guidelines for RCWs: The Basics

- Illegal to trap, harm, harass, or kill a RCW
- Preserve and protect existing cavity trees
- Provide a total of 3,000 ft² BA of 10" DBH or larger pine trees on at least 75 acres and preferably within $\frac{1}{4}$ mile of the cluster site but no farther than $\frac{1}{2}$ mile.
- Stands counted as foraging habitat should be contiguous with the cluster or not have gaps greater than 200 ft between them.
- Conduct activities outside of the breeding season (April 1 - July 31)

The Endangered Species Act and what it means for Boiling Spring Lakes

Endangered Species Act

(A brief overview)

The Endangered Species Act (ESA), enacted in 1973, is the nation's primary tool for conserving imperiled plants and animals. Currently over 1,200 U.S. species and over 550 foreign species are listed as either threatened or endangered.

Endangered species: In imminent risk of going extinct.

Threatened species: In imminent risk of becoming endangered.

"Take" Prohibition: The ESA prohibits the "take" of listed species, defined under Section 9 as actions that harm, harass, pursue, hunt, shoot, wound, trap, capture, collect, or kill a species.

A "take" also includes actions that significantly modify habitat in a manner that would lead to the injury or death of a listed species.

The take prohibition covers both federal and non-federal parties, including state and local governments, private companies, private individuals

An example of Take



What can we do to help protect the species and development?

Incidental Take Permits

Private landowners, corporations, state or local governments, or other non-Federal landowners who wish to conduct activities on their land that might incidentally harm (or "take") wildlife that is listed as endangered or threatened must first obtain an incidental take permit from the U.S. Fish and Wildlife Service.

Habitat Conservation Plans

To obtain a permit, the applicant must develop a *Habitat Conservation Plan* (HCP), designed to offset any harmful effects the proposed activity might have on the species. The HCP process allows development to proceed while promoting listed species conservation.

Habitat Conservation Plans

A brief overview

HCPs are documents that outline the necessary steps that identify the mitigation efforts that will be used to offset the loss of species and/or habitat

HCPs allow development to take place and take of species to happen legally

HCPs can be developed and used for any landowner regardless of the size of property

HCPs can be developed for towns, communities, counties and states

HCPs take from 1 to 2 years to develop

HCPs can cost money to develop and implement

There have been 16 HCP's to date to assist the RCW