

Species Conservation Guidelines

South Florida

Red-cockaded Woodpecker

The Species Conservation Guidelines for the red-cockaded woodpecker (*Picoides borealis*) provide a tool to determine if a project may adversely affect the red-cockaded woodpecker. Here we describe what actions might have a detrimental impact on red-cockaded woodpeckers and how these effects can be avoided or minimized.

Life History

The Fish and Wildlife Service (Service) federally listed the red-cockaded woodpecker in 1970 and classified it as endangered in Florida due to destruction and degradation of its habitat. The *Revised Recovery Plan for the Red-cockaded Woodpecker* (Recovery Plan) (Service 2003) provides information on habitat needs, territory sizes, and species biology. The Service also views this guidance as applicable to section 7 and 10 consultations as a tool to minimize adverse effects to the red-cockaded woodpecker. In addition, the *South Florida Multi-Species Recovery Plan* (Service 1999) provides a synopsis of red-cockaded woodpecker ecology in this area.

Habitat

The red-cockaded woodpecker is non-migratory, territorial, and lives in cooperative breeding social units called groups. It uses mature pine trees to develop nest cavities and is the only North American woodpecker that excavates its roost and nest cavities in living trees. Active cavities can be easily identified by their resin flow pattern (Wood 1996). Cavities are the most valuable habitat property as they can take 3 years or more to excavate (Service 1999). Cavities are periodically abandoned and reoccupied (Doerr et al. 1989). If a cavity is abandoned for more than 5 years there is a low probability of reoccupation. Cavity trees tend to be aggregated into areas known as "clusters." The cluster is made up of active (in use) and inactive (previously used) cavity trees within an area defended by a single group (Walters et al. 1988). Suitable nesting habitat for the red-cockaded woodpecker include pine stands, or pine-dominated pine/hardwood stands, with a low or sparse understory and ample old-growth pines (Service 1999). Trees must be more than 60 years old to be suitable for cavity construction. Longleaf pine (*Pinus palustris*) is preferred where available, however, cavities are also constructed in all other pine trees in Florida with the exception of sand pine (*Pinus clausa*) and spruce pine (*Pinus glabra*) (Hovis and Labisky 1985). South of the longleaf pine range, red-cockaded woodpeckers typically use slash pine (*Pinus elliottii*) (Beever and Dryden 1992). Other habitats, such as areas with sparse pine canopies, melaleuca (*Melaleuca quinquenervia*) or Brazilian pepper (*Schinus terebinthifolius*) invasion, mixed pine/cypress habitats, cypress heads, and very young pine

habitats, are used in south Florida, although this habitat use may not be typical throughout its range. In south Florida, red-cockaded woodpeckers will also forage in young pine trees and traverse open prairie-type habitats to reach forage areas (Beever and Dryden 1992). Home ranges for red-cockaded woodpeckers average 141-162 ha (350-400 acres) in southern and central Florida, and can exceed 200 ha (494 acres) in southwest Florida due to low productivity of this area (Beever and Dryden 1992). Red-cockaded woodpeckers frequently disperse up to 5 km (3.1 mi) from their natal cluster to form new clusters (Walters 1990).

Distribution

Red-cockaded woodpecker populations are widespread, but small and disjunct in the south Florida region. Substantial clusters of red-cockaded woodpeckers occur in Three Lakes Wildlife Management Area (Osceola County), Avon Park Air Force Range (Highlands County), Cecil M. Webb Wildlife Management Area (Charlotte County), and Big Cypress National Preserve (Collier and Monroe Counties) with scattered small populations throughout the service area. There is no designated critical habitat for the red-cockaded woodpecker.

Determination

To help in determining whether your project may affect the red-cockaded woodpecker the SLOPES flowchart for the red-cockaded woodpecker can be used as a guide (Fig. 1). The first step requires project-specific information that generally includes a project description, habitat maps, and project location. Though nest sites may be off the property if the red-cockaded woodpecker uses the property as a foraging area the Service considers it occupied because the habitat fulfills the species life history needs. The Service uses a 200-ha (494 acres) circular area as the furthest point that would allow for overlap of an off-site territory onto the property. As such, a 0.8-km (0.5 mi) buffer around the project should be identified on the habitat maps and considered in habitat use.

Suitable habitat for red-cockaded woodpeckers would include FLUCCS categories Upland Coniferous Forest (410), Pine flatwoods (411), Longleaf Pine - Xeric Oak (412), and Pine - Mesic Oak (414). Hydric slash pine flatwoods can be difficult to identify from aerial and FLUCCS maps. In these habitats only mature pines (greater than 60 years old) are important as nesting trees (Beever and Dryden 1992), but these can be as small as 15.2 cm (6 in) dbh.

You can check occurrence records of red-cockaded woodpeckers in your area through the Florida Natural Areas Inventory (<http://www.fnai.org/>).

If no suitable habitat [mature pines greater than 15.2 cm (6 in) dbh is present in the project area and buffer, then no effect to red-cockaded woodpeckers is anticipated and other Federal action can proceed.

If suitable habitat is present the red-cockaded woodpecker is likely to be adversely affected. There are two options available. **Option a** provides for the use of surveys of the property to determine the presence or presumed absence of red-cockaded woodpecker. While **option b** assumes that suitable habitat support red-cockaded woodpecker.

Two types of surveys are needed for the red-cockaded woodpecker: cavity tree and foraging area. See the survey protocols in Appendix A for more details. These protocols are the minimum level of effort the Service believes necessary to determine the presence or absence of this species in the area. If surveys do not detect the presence of the red-cockaded woodpecker on the property and buffer, then the project is no likely to adversely affect red-cockaded woodpeckers.

If surveys detect the red-cockaded woodpecker, suitable habitats are assumed to support the species (**option b**), or it is known to be present on the property, then the project may affect the red-cockaded woodpecker and conservation measures should be implemented to minimize adverse effects.

Conservation Measures

To facilitate conservation, management is based on the cluster. For this purpose the cluster is the minimum convex polygon containing all cavity trees in use by a group of red-cockaded woodpeckers and a surrounding 61-m (200 ft) wide area of continuous forest. The occupied habitat consists of the cluster and foraging area, a 0.8- km (0.5 mi) wide area surrounding the cluster.

The Service encourages users to use the Recovery Plan (Service 2003) for any on-site preservation, enhancement, or management actions they propose that may have an effect on the red-cockaded woodpecker. The Recovery Plan also provides guidance for off-site compensation needs for occupied habitat losses.

The Service strongly recommends that occupied habitats be avoided and preserved. The first measure is to modify the project footprint to avoid direct impacts to red-cockaded woodpecker habitat. This habitat could be designated as an environmentally sensitive area and set aside by deed restriction, easement, or other protective covenant. If the occupied habitat on the property exceeds 2 ha (5 acres), then a habitat management plan is also recommended. The incorporation of these recommendations into the project design and documented in the habitat management plan can result in the project not likely to adversely affect the red-cockaded woodpecker.

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On-site habitat enhancements are recommended by the Service in situations where a project proposes to impact occupied red-cockaded woodpecker habitat. If the site has been physically altered by exotic species invasion, lack of fire, or other anthropogenic actions. These alterations have produced on-site habitat conditions that have resulted in marginally suitable habitats for the survival and propagation of the red-cockaded woodpecker. The planned action, through project redesign, has avoided impacting a substantial portion of the habitat; however some habitat loss will still occur. The project proposes on-site habitat enhancements and management actions that provide habitat quality improvements that balance losses of small amounts of marginally suitable habitats. The incorporation of these recommendations into the project and documented in a habitat management plan can result in the project not likely to adversely affect the red-cockaded woodpecker.

The remaining measures available to minimize adverse effects to the red-cockaded woodpecker are those associated with projects where on-site habitat avoidance, preservation, or enhancement are insufficient or are not appropriate and take of red-cockaded woodpecker is likely. If on-site habitat modifications reduce suitable habitats below 200 ha (494 acres) (including off-site area) then take is likely. When take is likely, the project is likely to adversely affect the red-cockaded woodpecker and compensation is a possible option. The Service has developed measures that are applicable to projects where compensation for adverse effects is appropriate. These measures, which further the Service's goals for conservation and recovery of the species, are discussed in detail in the Recovery Plan (Service 2003: 119). The Service prefers compensation on site or nearby. If these options are not available then compensation at the nearest red-cockaded woodpecker conservation area is a second option. Contact the Service at the earliest possible time to discuss these compensation options.

Reports

Habitat Management Plan

A Habitat Management Plan is necessary when a project may affect the red-cockaded woodpecker. In general, the plan includes a biological report, compensation options, and any land preservation covenants. Habitat management options are listed in the Recovery Plan (Service 2003: 71). If habitat enhancements are proposed, the management plan needs to include a habitat monitoring component. Population and habitat monitoring is an essential aspect of the red-cockaded woodpecker management and recovery. Only through accurate monitoring can we determine the success and failure of our management actions, and adapt these actions accordingly. Appropriate intensity of monitoring varies with population size, role in recovery, and management objectives. Sections 3A, 8C, 8D, and Appendix 2 of the Recovery Plan (Service 2003) describes basic monitoring techniques.

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Biological Report

In general, the report should include a project introduction, proposed action, project habitat descriptions, project effects, recommendations to minimize species effects, conclusions, and commitments. The report should also include the survey report, survey data sheets, and territorial boundaries of the cluster, if red-cockaded woodpeckers are present. Refer to Service (2004) for a more detailed discussion of report requirements, format, explanations of common ESA questions, and level of detail needed in the report.

Literature Cited

- Beever, J.W. and K. Dryden. 1992. Red-cockaded woodpeckers and hydric slash pine flatwoods. Transactions of the 57th North American Wildlife and Natural Resources Conference 57:693-700.
- Doerr, P.D., J.R. Walters, and J.H. Carter III. 1989. Reoccupation of abandoned clusters of cavity trees (colonies) by red-cockaded woodpeckers. Proceedings of the annual conference of Southeast Association of Fish and Wildlife Agencies 43: 326-336.
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- Walters, J.R. 1990. Red-cockaded woodpeckers: a “primitive” cooperative breeder. Pages 69-101 in P.B. Stacey and W.D. Koenig, eds. Cooperative breeding in birds: long-term studies of ecology and behavior. Cambridge University Press, Cambridge, England.
- Walters, J.R., P.D. Doerr, and J.H. Carter III. 1988. The cooperative breeding system of the redcockaded woodpecker. Ethology 78:275-305.
- Wood, D.A. 1996. Promoting red-cockaded woodpecker welfare in Florida. Florida Game and Fresh Water Fish Commission. Nongame Wildlife Management Bulletin No 1.

GIS Data

None available.

**Standard Local Operating Procedures for Endangered Species
Red-cockaded Woodpecker**



Start Here

STEP 1

- Project Description
- Habitat Description
- Checked County List?

STEP 2

- ✓ Check Consultation Area Map
- ✓ Check Suitable Habitat

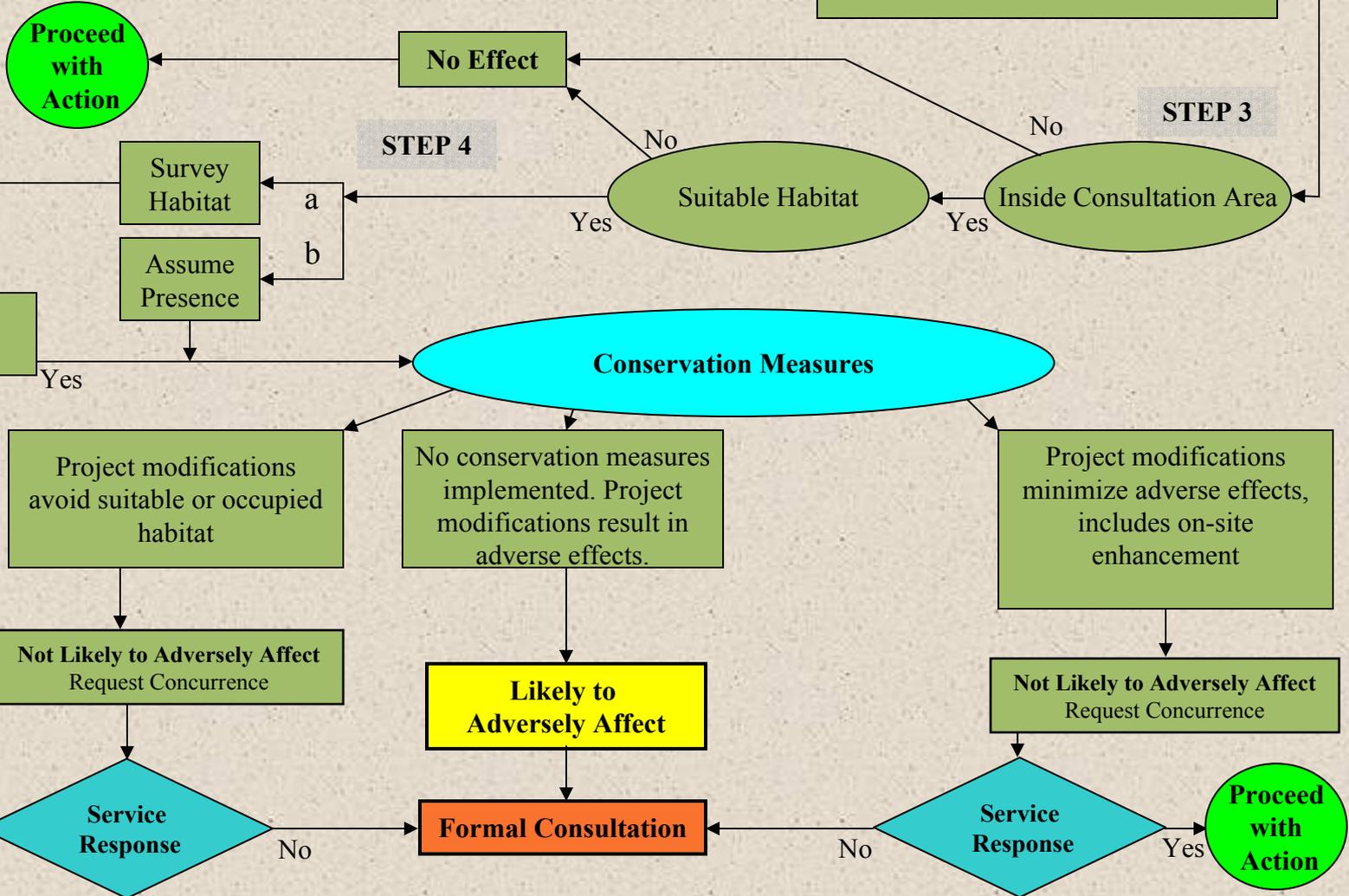


Figure 2.

Red-cockaded Woodpecker

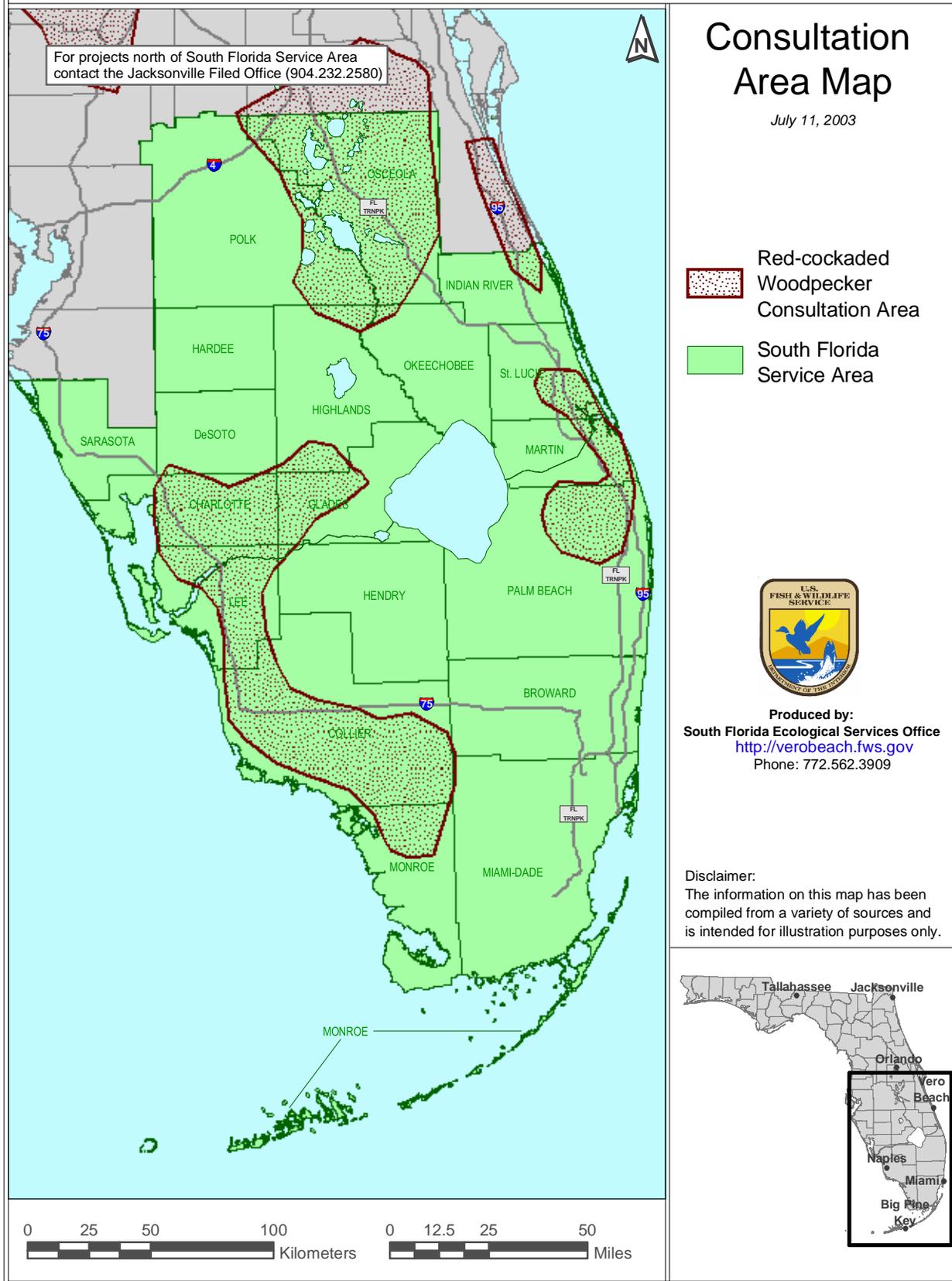


Figure 1.

South Florida Ecological Services Office
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APPENDIX A

Red-cockaded Woodpecker

South Florida

Survey Protocol

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Survey Protocol

(Adapted from Service 2003)

Nesting and Foraging Habitat

Surveys are used to determine whether the nesting and/or foraging habitat of a red-cockaded woodpecker group will be adversely impacted by a proposed project. This is an important part of the conservation and management of this endangered species, and therefore the Fish and Wildlife Service has developed standard survey and analysis procedures for such determinations. These determinations must be undertaken prior to the initiation of any project within the southeastern United States that calls for removal of pine trees 60 years or older; typically such trees will be at least 25.4 cm (10 in) dbh (diameter at breast height) or larger. In south Florida slash pines as small as 15.2 cm (6 in) dbh can be this old. The procedure is also used following new land acquisition by state and federal agencies in the southeast or any other circumstance in which the presence or absence of red-cockaded woodpeckers is to be assessed.

The first step in the survey procedure is to determine if suitable nesting or foraging habitat exists within the area to be impacted by the project. If no suitable nesting or foraging habitat is present within the project impact area, further assessment is unnecessary and no effect to the red-cockaded woodpecker is anticipated. If no suitable nesting habitat is present within the project impact area, but suitable foraging habitat is present and will be impacted, potential use of this foraging habitat by groups outside the project boundaries must be determined. This is accomplished by identifying any potential nesting habitat within 0.8 km (0.5 mi) of the suitable foraging habitat that would be impacted by the project. Any potential nesting habitat is then surveyed for cavity trees. This procedure is described in greater detail below. If no active clusters are found, then the red-cockaded woodpecker is anticipated. If one or more active clusters are found, a foraging habitat analysis is conducted (see below) to determine whether sufficient amounts of foraging habitat will remain for each group post-project.

For nesting and foraging habitat surveys within project impact areas and within 0.8 km (0.5 mi) of the project site, potential habitat is assessed at the level of the stand. A stand is a term used to refer to a wooded area receiving past or current silvicultural treatment as a single management unit. Here we expand the term to include any subset of a tract of wooded land, divided by biological community type, management history, or any other reasonable approach. A small tract of land may be considered a single stand or part of a large stand.

Identification of Suitable Foraging Habitat

For the purpose of surveying, suitable foraging habitat consists of a pine or pine/hardwood stand of forest, woodland, or savannah in which 50 percent or more of the dominant trees are pines and

the dominant pine trees are generally 60 years in age or older. These characteristics do not necessarily describe good quality foraging habitat; rather, this is a conservative description of potentially suitable habitat. Identification of pine and pine/hardwood stands can be made using cover maps that identify pine and pine/hardwood stands, aerial photographs interpreted by standard techniques, or a field survey conducted by an experienced forester or biologist. Age of stands can be determined by aging representative dominant pines in the stands using an increment-borer and counting annual growth rings. Stand data describing size classes may be substituted for age if the average size of 60 year-old pines is known for the local area and habitat type.

If no suitable foraging habitat is present within the project area (that is, no pines 60 years or older will be impacted), then further evaluation is unnecessary and red-cockaded woodpeckers can be presumed absent. If the project area contains any suitable foraging habitat that will be impacted by the project, that habitat, if it contains any 60 year old trees or older, and all other suitable nesting habitat within 0.8 km (0.5 mi) of the project site, regardless of ownership, must be surveyed for the presence of red-cockaded woodpeckers.

Identification of Suitable Nesting Habitat

For the purpose of surveying, suitable nesting habitat consists of pine, pine/hardwood, and hardwood/pine stands that contain pines 60 years in age or older and that are within 0.8 km (0.5 mi) of the suitable foraging habitat to be impacted at the project site (see above). Additionally, pines 60 years in age or older may be scattered or clumped within younger stands; these older trees within younger stands must also be examined for the presence of red-cockaded woodpecker cavities. These characteristics do not necessarily describe good quality nesting habitat; rather, this is a conservative description of potential nesting habitat.

Determination of suitable nesting habitat may be based on existing stand data, aerial photo interpretation, or field reconnaissance. Trees should either be aged or assumed suitable if greater than 15.2 cm (6 in) dbh. All stands meeting the above description, regardless of ownership, should be surveyed for cavity trees.

Cavity Tree Survey

Once suitable nesting habitat is identified (above), it must be surveyed for cavity trees of red-cockaded woodpeckers by personnel experienced in management and monitoring of the species. Potential nesting habitat is surveyed by running line transects through stands and visually inspecting all medium-sized and large pines for evidence of cavity excavation by red-cockaded woodpeckers. Transects must be spaced so that all trees are inspected. Necessary spacing will vary with habitat structure and season from a maximum of 91 m (300 ft) between transects in very open pine stands to 46 m (150 ft) or less in areas with dense midstory. Transects are run north-south, because many cavity entrances are oriented in a westerly direction, and can be set using a hand compass. While surveying for cavities look and listen for red-cockaded woodpeckers. If any are observed record their location and behavior.

When cavity trees are found, their location is recorded in the field using a Global Positioning System (GPS) unit, aerial photograph, or field map. Activity status, cavity stage (start, advanced start, or complete cavity), and any entrance enlargement are assessed and recorded at this time. A cavity can only be considered abandoned if inactive for five consecutive years. Again, it is extremely important to have all surveys and cavity tree assessments performed by experienced personnel. If cavity trees are found, more intense surveying within 457 m (1,500 ft) of each cavity tree is conducted to locate all cavity trees in the area. Cavity trees are later assigned into clusters based on observations of red-cockaded woodpeckers as described in Service (2003, section 3A).

Foraging Area Survey

When a known red-cockaded woodpecker cluster is located on site or within off site, but within 0.8 km (0.5 mi) of the project site a forage area survey is needed to determine if birds are foraging on site. If the off-site buffer can not be surveyed then the nearest known active cluster should be determined. If an active cluster occurs within 5 km (3.1 km) of the site then a forage survey should be conducted.

Surveys for foraging area boundaries require both breeding season surveys (April 15 through June 15) and non-nesting season (fall) surveys (October 15 through December 15). Surveys should be conducted during the morning hours, from 1 hour prior to sunrise to four hours past sunrise. Surveys outside of these time frames can be inconclusive. Only calm, clear days should be surveyed as red-cockaded woodpecker activity is limited on windy and rainy days. The foraging area surveys require 14 days of survey over the season. Two methods of identifying foraging area boundaries are provided depending on the circumstances.

If there are active red-cockaded woodpecker cavities on the property the territory is considered a 0.8-km (0.5 mi) radius area surrounding the cluster. This can be modified if a foraging area survey is conducted to determine the area boundaries. A foraging area survey commences with observations of the red-cockaded woodpeckers when they leave their roosts. The surveyor documents the number of birds and tracks the birds as they forage through the adjacent habitats. Data should be collected at half hour intervals, recorded on maps, or documented with GPS coordinates for later mapping. If the red-cockaded woodpecker moves to a new location while being observed, the flight direction and the location where the red-cockaded woodpecker lands should be noted. Behavior and vocalizations should be noted, especially behavior that would indicate courtship or nesting.

If there are no active red-cockaded woodpecker cavities on the property a meandering pedestrian transect should be conducted through all suitable habitat. The observer should stop every 3 to 5 minutes, look, and listen for red-cockaded woodpecker activity. Since these birds are territorial and will defend their territory from intrusion by other individuals, the use of red-cockaded woodpecker vocal recordings can facilitate observation. Therefore, at each of the stops, play 30

seconds of continuous red-cockaded woodpecker vocal calls. Tapes of red-cockaded woodpecker vocalizations are available from Audubon and Peterson field guide series.

Report

A final survey report should include the following, as applicable:

A. Field data sheets that include:

1. dates and starting and ending times of all surveys conducted;
2. weather conditions during all surveys, including temperature, wind speed and direction, visibility, and precipitation; and
3. the total number of red-cockaded woodpeckers observed and number of red-cockaded woodpecker clusters.

Red-cockaded woodpecker activity and cavity tree information should be submitted in a survey report to the South Florida Ecological Services Office, 1339 20th Str., Vero Beach, FL 32960.

Literature Cited

U.S. Fish and Wildlife Service (Service). 2003. Revised recovery plan for the red-cockaded woodpecker (*Picoides borealis*). 2nd revision. Atlanta, Georgia.
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