



United States Department of the Interior

FISH AND WILDLIFE SERVICE

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Memorandum

To: File (S:\T&E\ESA Section 7\IPaC)

From: Robert Allen, Wildlife Biologist; Nacogdoches, Texas

Through: Omar Bocanegra, Supervisory Fish & Wildlife Biologist; Arlington ES Office

Subject: Red-cockaded Woodpecker Determination Key

This memo is a record of the rationale behind the determination key section for the endangered red-cockaded woodpecker (RCW) within the 112 counties covered by the Arlington Ecological Services Office (ARLES). This determination key is a logically structured set of questions to assist a user in determining whether a proposed project qualifies for a predetermined consultation outcome based on USFWS standing analysis. General biology and other information is included to support the standing analysis and key. This key is intended to be delivered through the USFWS' Information for Planning and Consultation (IPaC) web application.

The Service identified the red-cockaded woodpecker (RCW) as a rare and endangered species in 1968 and officially listed it as endangered in 1970 (35 FR 16047). No critical habitat has been designated for the RCW. A complete discussion of the status of the species in Texas and throughout its range can be found in the RCW Recovery Plan (USFWS 2003), and is summarized below.

Historic and Current Distribution

The RCW is a non-migratory and territorial species exhibiting a complex social system referred to as the cooperative breeding system. It measures approximately 8 – 9 inches in length with a wing span of 14 – 15 inches and is distinguished by its conspicuous white cheek patches, black cap and neck, and black-and-white barred back and wings. Historically, the RCW occupied a wide range throughout old-growth, fire maintained open-pine ecosystems of the southeastern United States to which it is endemic. Although still widely distributed, the range of the RCW is now limited and fragmented as a result of past and present human activities (e.g., resource extraction activities, changes in land cover, and urban development) and natural factors (e.g., hurricanes and pine beetle outbreaks). The remaining largest RCW populations exist primarily on Federal and state lands located in the Atlantic and Gulf Coastal Plains from North Carolina to

Texas, the Piedmont of Georgia and Alabama, the Sandhills of North Carolina and South Carolina, and the interior highlands of Arkansas, and Oklahoma. General information on the biology and habitat of these species can be found at: <https://www.fws.gov/species/red-cockaded-woodpecker-picoides-borealis>.

RCW require open pine woodlands and savannahs with large old pines for nesting and roosting habitat (clusters) which are typically in excess of 60 years of age. Large old pines are required as cavity trees because the cavities are excavated completely within inactive heartwood, so that the cavity interior remains free from resin that can entrap the birds. Cavity trees are typically found in open stands with little or no hardwood midstory and few or no overstory hardwoods. Hardwood encroachment resulting from fire suppression is a well-known cause of cluster abandonment. RCWs also require abundant foraging habitat. Suitable foraging habitat consists of mature pines with an open canopy, low densities of small pines, little or no hardwood or pine midstory, few or no overstory hardwoods, and abundant native bunchgrass and forb ground covers. Minimum forest stand age considered as suitable foraging is 30 years and it should be in an open condition. RCW occurrence has been confirmed in 13 counties in Texas (Allen 2019). In the Arlington ESFO area of responsibility, active RCW clusters are known to occur in Cherokee and Shelby Counties, while the single observation of a transient RCW has been documented for Nacogdoches County (Burt per. comm. 2014), but from which no active clusters are known (USFWS 2020).

Reasons for Decline and Threats to Survival

The primary threats to RCW viability are associated with the lack of suitable habitat (USFWS 2003). RCW requires open mature pine woodlands and savannahs maintained by frequent fire, and there is very little of this habitat remaining when compared to historical levels (Lennartz *et al.* 1983, Frost 1993, Simberloff 1993, Ware *et al.* 1993). On public and private lands, both the quantity and quality of RCW habitat are impacted by past and current fire suppression and detrimental silvicultural practices (Ligon *et al.* 1986, 1991, Baker 1995, Cely and Ferral 1995, Masters *et al.* 1995, Conner *et al.* 2001). Serious threats stemming from this lack of suitable habitat include (1) insufficient numbers of cavities and continuing net loss of cavity trees (Costa and Escano 1989, James 1995, Hardesty *et al.* 1995); (2) habitat fragmentation and its effects on genetic variation, dispersal, and demography (Conner and Rudolph 1991b); (3) lack of foraging habitat of adequate quality (Walters *et al.* 2000, 2002a, James *et al.* 2001); and (4) fundamental risks of extinction inherent to critically small populations from random demographic, environmental, genetic, and catastrophic events (Shaffer 1981, 1987).

Fire suppression and exclusion is still a profound threat to RCW populations. Hardwood encroachment due to fire suppression has been a leading cause of loss of RCW groups and degradation of foraging habitat on both public and private lands and continues to be a major threat throughout the species' range (Van Balen and Doerr 1978, Hovis and Labisky 1985, Conner and Rudolph 1989, 1991a, Costa and Escano 1989, Loeb *et al.* 1992, Baker 1995, Cely and Ferral 1995, Escano 1995, Masters *et al.* 1995). In addition to fire suppression, threats to RCW can be attributed to short rotation silvicultural practices as well as the shift in industrial forestry to plantations of off-site pine species on private lands (USFWS 2003). Silvicultural practices on public lands have improved in recent years. Agency responses to legislated

protection of RCWs include longer rotation times (USFS 1995), increases in the area under protection (USFS 1995), and elimination of intentional conversion of native pines to off-site species. Enlightened management plans emphasize prescribed burning, pine thinning to open dense second-growth stands, and retention of scattered relict old growth pines (USFS 1995). For many public lands, timber removal is now an important management tool rather than an overriding objective (USFS 1995). Overall, current timber production and conversion to off-site pines on public lands are less of a threat than earlier this century, although effects of past practices are still being exhibited.

A major impact of habitat loss on the viability of RCW is the resultant fragmented distribution. Fragmentation and isolation have occurred both among groups within a population and among populations, with serious consequences for RCW. RCWs are particularly sensitive to effects of isolation because of the limited dispersal characteristic of cooperative breeders (Walters *et al.* 1988a, Daniels and Walters 2000a). Fragmentation among populations increases the vulnerability of those populations to adverse genetic, demographic, and environmental events (Walters *et al.* 1988a, Conner and Rudolph 1991b, Hooper and Lennartz 1995), because the dispersal that can help offset such threats is easily disrupted. Fragmentation and isolation of groups within a population can substantially increase that population's risk of extinction (Crowder *et al.* 1998, Letcher *et al.* 1998, Walters *et al.* 2002b).

Proposed activities may occur with no effect to the RCW if the project area is not within a 0.5 mile of occupied habitat. Occupied habitat is defined as the presence of an active RCW cluster and its associated foraging habitat within a 0.5 mile radius of the center of the active cluster. An active RCW cluster is defined as the aggregation of cavity trees previously and currently used and defended by a group of woodpeckers with a 200 foot wide buffer encompassing a minimum of 10 acres. Presence of RCWs within a 0.5 mile of proposed activities should be determined utilizing the methodology described in 2003 Red-cockaded Woodpecker Recover Plan Appendix 4. Survey Protocol.

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 a "no effect" determination is appropriate. 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 in the RCW recovery plan stated above. If no active clusters are found, then a "no effect" determination is appropriate. If one or more active clusters are found, a foraging habitat analysis is conducted (see recovery plan Chapter 8I) to determine whether sufficient amounts of foraging habitat will remain for each group post-project.

Proposed activities may occur without adverse effects to the RCW if the action occurs outside an active RCW cluster boundary and no suitable foraging habitat would be removed or degraded within a 0.5 mile radius from the center of the cluster. If the project **will not** impact the best 120 acres dedicated to foraging habitat (or the best 200-300 acres in sites of low productivity), and

that dedicated foraging habitat is being actively moved toward the desired structure by demonstration of reasonable progress, then the project (e.g., a land use change) would likely not have an adverse effect. Here we use the term ‘best’ to refer to those acres that best reflect the desired habitat structure and important habitat elements put forth in the recovery standard. If the project **will** impact some of the best 120 acres dedicated to foraging habitat (or the best 200-300 acres in sites of low productivity), and will not move the habitat directly toward the desired structure, then the project may have adverse effects. However, in some cases such as restoration of site-appropriate pine species, the project may continue at a reduced level (e.g., group selection or very small patches) so that impacts to foraging are minimized and weighed against future benefits. Such concurrence requires a case-by-case review.

Key for evaluating potential impacts to the RCW within the ARLES area of responsibility.

If the project is found to intersect RCW Area of Influence (determined through IPaC), the Key for evaluating effects follows:

- A. Will the project involve removal of suitable RCW foraging habitat (pine or pine/hardwood stands in which 50 percent or more of the dominant trees are pines and the dominant pine trees are 30 years of age or older) as described in [2003 RCW Recovery Plan Appendix 4. Survey Protocol](#)?
 - a. If yes..... go to D
 - b. If no.....go to B
- B. Will the project occur within suitable RCW nesting habitat (pine or pine/hardwood stands that contain pines 60 years of age or older)?
 - a. If yes.....go to C
 - b. If no..... no effect
- C. Will the project involve removal of or disturbance within suitable nesting habitat (pine or pine/hardwood stands that contain pines 60 years of age or older)?
 - a. If yes.....go to E
 - b. If no.....NLAA
- D. Does suitable nesting habitat occur within 0.5 mile of the suitable foraging habitat that would be impacted by the project?
 - a. If yes.....got to E
 - b. If no.....no effect
- E. Has all suitable RCW nesting habitat in or within 0.5 mile of the project area been surveyed for the presence of RCW cavity trees? [Note] Surveys should be conducted per the [2003 RCW Recovery Plan Appendix 4. Survey Protocol](#).
 - a. If yes..... go to F
 - b. If no.....may affect, conduct presence/absence survey using USFWS protocol or contact field office for additional assistance
- F. Were RCW cavity trees observed?

- a. If yes.....go to G
 - b. If no.....NLAA
- G. Will the project involve removal or damage to (i.e., via root compaction, soil compaction, etc.) RCW cavity tree(s)?
 - a. If yes.....may affect, likely to adversely affect
 - b. If no.....go to H
- H. Will the project involve disturbance within a cluster boundary during the nesting season or prior to one hour after sunrise and/or after one hour before sunset outside the breeding season (i.e., seismic activity, all-terrain vehicle and other off-road vehicle use, motorized equipment, etc.)?
 - a. If yes.....may affect, likely to adversely affect
 - b. If no.....go to I
- I. Has a foraging habitat analysis been conducted to determine whether sufficient amounts of foraging habitat remain for each RCW group under post-project conditions (<https://fws.gov/media/procedures-determining-foraging-habitat-availability-red-cockaded-woodpecker>)?
 - a. If yes.....go to J
 - b. If no.....conduct foraging analysis using USFWS protocol or contact field office for additional assistance (see link above)
- J. Will an adequate amount of foraging habitat remain post project?
 - a. If yes.....NLAA
 - b. If no.....may affect, likely to adversely affect

END KEY

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