

# **FINAL PERFORMANCE REPORT**



**Federal Aid Grant No. F22AP02716 (E-21-R-26)**

**Red-cockaded Woodpecker Recovery on the McCurtain County  
Wilderness Area**

**Oklahoma Department of Wildlife Conservation**

**October 1, 2022 – December 31, 2023**

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**State:** Oklahoma

**Grant Number:** F22AP02716 (E-21-R-26)

**Grant Program:** Cooperative Endangered Species Conservation Fund, Traditional Conservation Grants Program

**Grant Title:** Red-cockaded Woodpecker Recovery on the McCurtain County Wilderness Area

**Grant Period:** October 1, 2022 – December 31, 2023

**Principal Investigator:** Curtis Tackett, Oklahoma Department of Wildlife Conservation

### ABSTRACT:

Recovery efforts were conducted for the Red-cockaded Woodpecker (*Picoides borealis*, RCW) population on the McCurtain County Wilderness Area (MCWA) in accordance with the 1991 MCWA Management Plan and the U.S. Fish and Wildlife Service's guidelines (USFWS 2003). As of May 2023, the number of active RCW clusters on the MCWA and adjacent Ouachita National Forest (ONF) tract was nineteen (19), of those active clusters, twelve (12) clusters attempted nesting and 28 chicks were hatched. Banding efforts began on 5/16/23 and continued through 6/1/23 and a total of 22 chicks were banded. Fledgling checks began on 5/29/23 and continued through 6/18/23 and a total of 18 chicks fledged (11M, 6F, 1 unknown). The number of potential breeding groups (PBGs), or those composed of at least one male and one female that attempted nesting was 12 confirmed. Throughout this grant period, cavities (both natural and artificial) were serviced and cleaned to maintain their suitability for RCW occupancy and habitat manipulation was conducted through tree removal and prescribed burning. PBGs were monitored weekly during the nesting season (April 15 – June 18) of 2023.

### BACKGROUND:

In Oklahoma, the last known population of Red-cockaded Woodpeckers (RCWs) resides within both the state owned McCurtain County Wilderness Area (MCWA) and an adjacent tract of the Ouachita National Forest (ONF) that borders the western edge of the MCWA. The narrow range of suitable habitat for this species is limited to mature pine woodlands and savannahs. In the Ouachita Mountains, which comprise the northwestern most extension of its range, the RCW is found in mature shortleaf pine woodlands with a grassy understory dominated by bluestem species (*Andropogon* sp.). Over the past century, the RCW population in the Ouachita Mountains has declined as a result of habitat degradation. Widespread logging in the early part of the twentieth century eliminated many of the mature pine stands which supported RCW clusters. Through the rest of the century, the remaining pockets of mature pine habitat declined in quality as a result of fire suppression and the subsequent increase in mid-story vegetation. The population on the MCWA declined from approximately 28 active clusters in 1977 (Wood 1977) to 15 in 1990 (Kelly et al. 1994). Since 1992, the Oklahoma Department of Wildlife Conservation has been implementing a management plan to recover the Red-cockaded Woodpecker population on the area and the surrounding portions of the Broken Bow Unit of the ONF.

Despite intensive population management and habitat restoration, population growth has been extremely slow and limited in Oklahoma. Throughout its range, several studies have determined that the RCWs require living, mature (> 60 years of age) pine trees infected with Red Heart fungus for cavity excavation (Jones & Ott 1973, Jackson 1977, Conner & O'Halloran 1987). While a sufficient number of suitable trees appear to be present on the MCWA, other constraining factors may exist that limit population growth and expansion. Research is needed to determine the limiting factors acting on this population. In addition to population monitoring and habitat restoration, ODWC is examining how weather variables affect the timing and overall success of nesting in the northwest edge of their occupied range. Results of such analyses could greatly inform management and recovery for this species in the Ouachita Mountains ecoregion.

## **OBJECTIVES:**

The following goals have been outlined for this segment:

- 1) Throughout the 2022 – 2023 seasons, continue to monitor the number of active RCW clusters within the Oklahoma population, including accounting for group composition and size, reproductive activity, nesting success, and cluster (stand) use on both the MCWA and adjacent Ouachita National Forest with the eventual goal of reaching the long-term goal 45 active clusters across the entire MCWA. Particular emphasis will be placed on the northwest portion of the MCWA where the majority of active territories exist.
- 2) Coordinate with the U.S. Fish and Wildlife Service, U.S. Forest Service, and other agencies participating in the Western Range Translocation Cooperative (WRTC) to continue to remain eligible for future augmentations from donor populations on USFS lands. Release sites for the establishment of translocated sub-adult birds will be selected based upon their close proximity to currently active RCW territories to maximize the chances of success.
- 3) Attempt to determine the factors that influence both habitat selection and reproductive success of Red-cockaded Woodpecker in the Ouachita Mountains using a combination of datasets, with the ultimate goal of understanding the limiting factors acting upon this species in the northwest periphery of its range.
- 4) Continue to maintain and restore the shortleaf pine-bluestem woodlands on the MCWA through the use of mechanical thinning (midstory tree removal, including stump re-sprouts, and dense stands of small pines) on areas in and around active RCW cavity trees and recruitment stands as a supplement to the currently implemented 3-year prescribed fire return interval that has been in place since 1991.

## **METHODS:**

### Population Monitoring

Red-cockaded Woodpecker (RCW) Potential Breeding Groups are usually checked on (or close to) April 20<sup>th</sup> to determine if nests have been initiated (determined by day first egg is laid). RCW nestlings are banded to obtain data on production changes, dispersal, and mortality and to aid in identification of single bird clusters that may be suitable for future augmentations. Nestlings are

typically leg-banded at seven (7) days of age with a U.S. Geological Survey metal band and a combination of colored plastic bands on both legs. At day 26 of nestling age, brood checks are made at nesting clusters to determine how many have successfully fledged.

#### Cluster Stand Management

New cavity trees, when located, are tagged and mapped. The status of cavity trees and clusters are determined at least twice annually, including immediately prior to each nesting period. The density of hardwood mid-story and understory trees is reduced as needed within a 10-acre block surrounding each active cluster. Hardwood mid-story trees within each cluster stand are controlled by both mechanical cutting and prescribed fire.

#### Recruitment Stand Management

Recruitment clusters are developed and maintained in portions of the Wilderness Area within 1/4 mile to one mile of active clusters, and each recruitment stand is provisioned with at least three artificial cavity inserts. Recruitment stand locations are in areas where the habitat within and surrounding each recruitment stand is as similar as possible to the habitat found at the active clusters.

#### Corridors

Where needed and feasible, corridors are developed and maintained between clusters and recruitment stands.

#### Restrictors and Predator Guards

Restrictor plates are placed on RCW cavities to prevent enlargement by other woodpecker species (e.g. Pileated) and to rehabilitate previously enlarged cavities. Predator guards are installed and maintained on all active cavity trees. Southern Flying Squirrels (*Glaucomys volans*) and other species that may usurp RCW cavities are removed as they are discovered during bi-monthly cavity checks.

#### Artificial Cavities

Cavity inserts are installed in active cluster stands to provide at least five usable cavities at each site. Each recruitment cluster contains a minimum of three artificial inserts; upon activation by dispersing RCWs, two or three additional inserts are installed.

#### Population Augmentation via Translocations

Through the multi-agency group called the RCW Western Range Translocation Cooperative (WRTC), translocations are implemented to both help bolster small populations of Red-cockaded Woodpeckers and maintain genetic diversity. Within the network, “donor” populations give hatch year RCWs to “recipient” populations to increase small and isolated population numbers. Birds to be translocated are identified within donor populations for several weeks prior to capture and are typically hatch year birds that are “floaters”, or young birds that have left their natal cluster but have not yet established themselves into a territory. Males and females are then paired up by the recipient and released into recruitment stands outfitted with artificial cavity inserts. In addition to releasing pre-paired RCWs, single bird clusters (usually a single male on territory) are identified and females from donor populations may be translocated in an effort to complete pairs at those clusters.

The WRTC maintains a translocation schedule and recipients usually wait in a “rotation” to receive birds from donor populations. However, this is contingent upon both the availability of suitable birds in donor populations and U.S. Fish and Wildlife Service approval. Juvenile pairs may also be translocated to the MCWA when population conditions (such as population declines) warrant and when RCWs are available to move from donor populations. The two primary donor populations for Oklahoma include the Sam Houston National Forest in Texas and the Kisatchie National Forest in Louisiana. Oklahoma completed a successful translocation with donor birds in October 2023.

## SUMMARY OF PROGRESS:

### Population Monitoring

Population monitoring was conducted during spring and early summer of 2023.

Below is the nesting data compiled by the MCWA manager.

Cluster	Nest Initiation	Clutch Complete	Projected Hatch	Actual Hatch AH	Bandin g Date-AH + 7 days	Fledge Check-AH + 19 days	Number Fledged M & F	Comments	
300	No	Nesting	Found					?	1
2	No	Nesting	Found					?	2
205	5-1-23	5-4-23?	5-15-23	5-10-23	5-16-23 (3)	5-29-23	1M & 1F		3
109	No	Nesting	Found					?	4
25	4-29-23	Bird in cav.	5-10-23	5-10-23	5-16-23(2)	5-29-23	2 M		5
112	5-11-23	5 eggs (5)	5-23-23	5-23-23	5-30-23 (1)	6-15-23	1 M	Found new cavity	6
111	5-8-23	Bird in cav.	5-22-23	5-23-23	5-30-23 (1)	6-10-23	1 M		7
37	No	Nesting	Found	???				?	8
FS west 2	No	Nesting	Found					Young birds	9
FS East 3	4-27-23	5-1-23 (3)	5-12-23	5-13-23	5-19-23 (2)	6-1-23	1 M		10
FS 1 Mid	4-26-23	5-1-23(4)	5-12-23	5-14-23	5-19-23 (3)	6-1-23	1M, 1F, 1?	3 chicks	11
Single Bird	5-2-23	5-6-23(4)	5-17-23	5-21-23	5-26-23 (1)	6-8-23	1 F		12
Eagle Nest	4-29-23	5-3-23(4)	5-14-23	5-10-23	5-16-23 (2)	5-29-23	2 F		13
5	5-1-23	5-3-23(2)	5-14-23	5-14-23	5-22-23 (2)	6-2-23	Gone?	1 large & 1 small chick	14
202	4-30-23	5-3-23(4)	5-14-23	5-16-23	5-22-23 (2)	6-5-23	1 M, 1 F		15
20	4-30-23	5-3-23(4)	5-14-23	5-15-23	5-22-23 (2)	6-1-23	2 M		16
16	No	Nesting	Found					?	17
210	No	Nesting	Found					?	18
1201	6-1-23	6-1-23 (3)	5-29-23	5-29-23	6-1-23 (1)	6-18-23	1 M		19
Totals		39 confirm		28	22		18	11M, 6F, 1unknown =18	

### Summary:

12/19 Attempted Nesting, 1 clutch lost at C5, C16 lost a new (N) cavity tree (storm uproot) just before nesting season began.

The West most Forest Service cluster became active shortly before nesting season began and it is speculated that they are young birds and not fully mature for breeding.

Note: “Complete clutch” egg numbers and dates were not determined at C25, C205 and C111 because the female was sitting in the nest cavity and wouldn’t flush.

### Cluster Stand Management

During March, the management crew began conducting cluster stand management and maintenance to cavity trees. Most of the cavity trees were checked for debris and flying squirrels as well as maintaining flashing and ensuring artificial inserts were intact. The peeper camera was also used to determine the nesting status.

### Habitat Management

- *Hardwood Mid-story Thinning and Corridors*

Hardwood mid-story thinning was small scale and focused on needed habitat improvements around translocation release sites and active clusters.

- *Prescribed Burning*

The ODWC conducted the annual cooperative prescribed burn with the U.S. Forest Service. The burn rotation for 2023 encompassed the North-central portion of the MCWA and as well as a large tract of U.S. Forest Service land. The burn acreages were as follows: MCWA 3,488 acres, USFS 777 acres, for a total of 4,265 acres. There are 7 active cluster locations within this burn unit as well as several recruitment stands. The MCWA. Burn preparations consisted of visiting each cluster location and using backpack blowers and rakes to clear all fuels from the bases of all cavity trees within each cluster. Efforts were also made to clear fuels from any nearby “cat-faced” pines as the openings in these tree bases often invite fire and can kill potential roost trees (cat-faced trees often have Red Heart fungus and could become cavity trees). We prepared all cavity trees on the East side and conducted the prescribed burn on March 29<sup>th</sup>, 2023. The fire traveled well and management goals were achieved at acceptable levels. Management efforts are generally aimed at burning approximately 1/3 of the MCWA each year.

### Translocation

The MCWA was due in rotation to receive donor birds in the fall of 2023. The donor population was the Kisatchie National Forest near Pineville, LA. The Kisatchie was set to donate 6 pairs to the MCWA, which marks the largest number of birds received since 2003. Preparations at current recruitment stands began in mid-June, which included replacement of older insert cavities and new inserts as needed and general habitat improvements (mid-story removal, brush hogging/clearing within the stands). There were three new recruitment stands provisioned, 2 on the MCWA and 1 on the adjacent USFS all on the west side of Broken Bow reservoir. COOP crews were assembled from ODWC, USFS-Oklahoma Ranger district (Broken Bow, OK) and

the Poteau/Cold Springs Ranger district (Waldron, AR). On the evening of October the 24<sup>th</sup>, personnel at the Kisatchie National Forest began trapping/capture efforts of 6 male and 6 females birds slated for the translocation. Birds were captured, placed in holding boxes and transported to the MCWA. Male/female pairs were distributed to teams to be placed in recruitment stand. Birds were placed in 6 stand locations at approximately 4:30 am, and released just after sunrise. All parties reported successful release efforts. These birds will be monitored during the nesting season of 2024.

#### Other Information

The management crew visited active cluster locations to look at active cavity tree status and to determine cavity tree losses. There were 53-55 active cavity trees/cavities and we lost at least 4 cavity trees, 1 was an uproot (a new Natural at C16) during a heavy storm, the others were to unknown causes at 3 different locations. The west side MCWA loss count was a single natural cavity tree at cluster 205. East side losses include 2 at cluster 16 (1 N, 1 IN) and cluster 5 lost 1 natural cavity tree. Notable findings were that we are still seeing more natural cavities being established. There were several clusters with at least 4 active cavity trees and we found 6 clusters with new natural cavity trees/ cavities developed.

The area management staff was reduced to one Biologist in late May of 2023, so installations of new recruitment stands were limited to the 3 new stands being provisioned for the upcoming translocation. Three new recruitment stands were established on the West side of the area, 2 on the MCWA and 1 one on the adjacent USFS property. The three remaining translocation sites were already existing sites where five new insert cavities were installed, and others were serviced for use.

The 2023 prescribed burn incorporated all of the active clusters on the East side of the area. Blowers and rakes were used to remove fuel from the base of all cavity trees and small direct burns in and around the clusters prior to the larger area burn were accomplished to smooth logistics and gain better protection of the cavity trees.

#### **RECOMMENDATIONS:**

Due to the high ODWC prioritization of recovery efforts for Red-cockaded Woodpeckers and the dedicated staff, this recovery work will continue beyond the current grant segment until such time as the population attains the MCWA management plan goal of 45 active clusters. Even if the population goal of 45 territories is achieved, continued habitat management and population monitoring will be required in perpetuity if RCWs are to persist on the MCWA and surrounding Oklahoma Ranger District of the Ouachita National Forest. After this current grant segment, the ODWC will no longer be funding this recovery and management work through the Traditional Section 6 grant program and will be transferring the work to be covered under our statewide WMA grant funded through the Wildlife Restoration Program.

#### **SIGNIFICANT DEVIATIONS:**

No significant deviations.

**EQUIPMENT:**

No equipment was purchased.

**Prepared by:** Curtis Tackett, Endangered Species Biologist  
Oklahoma Department of Wildlife Conservation

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**Approved by:** Kurt Kuklinski, Wildlife Diversity Research Supervisor  
Oklahoma Department of Wildlife Conservation

Andrea Crews, Federal Aid Coordinator  
Oklahoma Department of Wildlife Conservation