

FINAL PERFORMANCE REPORT



Federal Aid Grant No. F15AP00186 (E-21-20)

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

Oklahoma Department of Wildlife Conservation

April 1, 2015 – March 30, 2016

FINAL PERFORMANCE REPORT

State: Oklahoma

Grant Number: F15AP00186 (E-21-20)

Grant Program: Endangered Species Act Section 6

Grant Title: Red-cockaded Woodpecker (*Picoides borealis*) Recovery on the McCurtain County Wilderness Area (MCWA)

Reporting Period: April 1, 2015 – March 31, 2016

Principal Investigator: John Skeen, Oklahoma Department of Wildlife Conservation

A. Abstract:

Recovery efforts were conducted for the Red-cockaded Woodpecker (RCW) population on the McCurtain County Wilderness Area (MCWA) in accordance with the 1991 MCWA Management Plan and the Red-cockaded Woodpecker Recovery Plan. Between 2015 and 2016, the number of active clusters occupied by Red-cockaded Woodpeckers on the MCWA increased to 14, with the number of potential breeding groups remaining at twelve during the nesting season. The clusters on adjacent Ouachita National Forest land declined from two active clusters to one, for a total of 15 active clusters. The total number of birds in the Oklahoma population is currently estimated to be between 40 and 45 individuals.

Active clusters were monitored at an interval of approximately 8 weeks throughout the year and more frequently during the nesting season. During the 2015 nesting season, twelve nesting attempts were documented, one of which was a re-nest. Fourteen chicks successfully fledged (five males, five females, and four unknown). From these fledglings, two were recaptured and color-banded in the fall after they fledged; in addition, four adults were captured during fall that had been moved in previous years from Texas and Arkansas.

B. 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 U.S. Forest Service tract 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. 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 midstory vegetation. The population on the MCWA declined from approximately 28 clusters in 1977 to 9 in 1990. Since 1992, we have 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 Ouachita National Forest.

C. Objective:

To implement the Red-cockaded Woodpecker management procedures in the 1991 McCurtain County Wilderness Area Implementation Plan to ultimately recover the Area's Red-cockaded Woodpecker population to 45 active clusters.

D. Procedures:

Monitoring

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. Adult Red-cockaded Woodpeckers and 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.

Cluster Stand Management

The density of hardwood midstory and understory trees is reduced as needed within a 10-acre block surrounding each active cluster. Hardwood midstory trees within each cluster stand are controlled by both mechanical cutting and prescribed fire (prescribed burns were conducted under a separate grant funded through the Wildlife Restoration Act program).

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 Red-cockaded Woodpecker 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 Red-cockaded Woodpeckers, two or three additional inserts are installed.

Augmentation

Translocations are implemented to both help bolster small populations of Red-cockaded Woodpeckers and maintain genetic diversity. Single bird clusters are identified and birds from donor populations may be translocated to complete pairs at those clusters; 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.

Future translocations may become logistically challenging in the future. As a result of administrative and financial changes within the U.S. Forest Service, two donor population sites on National Forests in Arkansas and Texas may not be eligible to donate birds because of the lapse in

banding and monitoring of the population for one or more years. Since a monitoring gap exists, cluster composition and identification of suitable birds for translocation is unknown. According to U.S. Fish and Wildlife Service guidelines, birds to be translocated must be subadults; if birds are not outfitted with bands, neither age nor sex can be determined.

E. Results and Discussion:

Monitoring

Fourteen clusters, not including the active cluster adjacent to the McCurtain County Wilderness Area on the Broken Bow Unit of the Ouachita National Forest (ONF), were active during the 2015 - 2016 reporting period (Figures 1 & 2). Cluster C211, which had been managed as a recruitment cluster, was activated and colonized by a single bird during the reporting period. Cluster CE1, a new cluster located approximately one mile north of Cluster AC107, was also activated by a dispersing bird occupying a natural cavity. Cluster NF4, one of the previously active recruitment clusters on the ONF tract, became inactive. The combined number of all active Red-cockaded Woodpecker clusters on both the MCWA and adjacent ONF tract is fifteen.

During the 2015 nesting season (Fig. 3), 12 nesting attempts at 12 clusters resulted in 39 eggs of which 22 hatched. No nesting activity was detected at C202. Nest losses occurred at the following: C16, C20, C37, C205, and C1201. The pair from C37 attempted to renest, but was not successful. A total of six nesting attempts were unsuccessful; we were unable to determine the cause for these nest failures. Six nesting attempts were successful and 14 young (five males, five females, and four unknowns) were fledged (Fig. 3). Fall trapping resulted in the capture of three juveniles, one each from clusters C5, C205, and C37. The juvenile female from C5 fledged from the cluster where it was trapped; however, both juvenile birds from C37 and C205 were not trapped within their natal territories. Four adults were captured (one each at clusters C2, C5, C37, and NF4) that had been translocated in previous years from Sam Houston National Forest in Texas or Ouachita National Forest in Arkansas (Fig. 4).

Cluster Stand Management

Although one cluster was abandoned and another one activated, the total number of active clusters remained the unchanged on March 1, 2016 compared to the same date in 2015 (Fig. 1). The mean number of active trees per cluster was 3.5 in 2015 and 2.6 in 2016. Cavities at active clusters were checked at intervals of approximately 8 weeks throughout the year and cleaned and repaired as needed. In 2016, 23 of the 36 natural cavities at active clusters were active, while only 16 of the 65 inserts were used. This compares to 22 of the 37 natural cavities at active clusters were active, while only 16 of the 70 inserts were used in 2015 (Fig. 2).

During the period ending in 2015, two natural cavity trees died, one each at clusters 20 and 109, from unknown causes. Two additional cavity trees were lost to other causes, including one cavity tree at Cluster C210 from lightning and another cavity tree in C112 from a prescribed burn that was conducted in 2016.

Prescribed burns were conducted in both February and March 2016 on the McCurtain County Wilderness Area (MCWA), Ouachita National Forest, and adjacent private lands. The costs associated with each burn were paid through other grants, but the burns are described in this report because they are relevant to the habitat management efforts for the Red-cockaded Woodpecker population. On the west portion of the MCWA, a total of 2,828 acres within Compartment 1 (comprised of 1,230 acres on MCWA, 1,408 acres on ONF, and 190 acres of private land) was burned on February 12, 2016 (Fig. 5). Despite undertaking all due precautions, a single cavity tree in C112 was lost during this burn and subsequently replaced with an artificial insert. On the east

portion of the MCWA, a total of 4,654 acres was treated with prescribed fire in Compartments 4, 5, and 9 (comprised of 3,430 acres on MCWA and 1,224 acres on ONF) on March 4, 2016.

In 2015, no beetle spots were observed on the area and no beetle activity was seen throughout the region. Cooperative monitoring of the southern pine beetles with the Oklahoma Division of Forestry will continue.

Recruitment Stand Management

Twenty-seven recruitment and abandoned clusters were maintained in 2016 (Table 3).

Corridors

No additional corridors, to connect clusters and recruitment stands, were developed during this grant period. However, thinning in areas containing foraging habitat, clusters, and recruitment stands continued through the E-56 Mid-story Thinning grant. Beginning in April 2016, the mid-story thinning component will be included within this grant and E-56 will cease to exist as a stand-alone project.

Restrictors and Predator Guards

All usable natural cavities at active and inactive clusters have been restricted and all active cavity trees have been fitted with a 2-foot or 3-foot section of aluminum flashing as a predator guard. When a cavity tree at a recruitment stand or inactive cluster showed Red-cockaded Woodpecker activity, a predator guard was installed. During the reporting period, two new cavities were restricted - one at cluster CE1 and a second at C111.

Artificial Cavities

During the 2015 to 2016 period, one unserviceable insert was replaced at cluster C2. A single insert was added at cluster C112 to replace the natural cavity tree that was lost to a prescribed burn conducted in February-March 2016 on the MCWA.

Augmentation

No birds were moved from other populations during this period.

F. Significant Deviations:

None

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Date: April 20, 2016

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Figure 1.

**NUMBER AND STATUS OF CAVITIES AT ACTIVE
CLUSTERS MARCH 1, 2016**

CLUSTER	NATURAL CAVITIES		INSERTS		TOTAL CAVITIES AVAILABLE
	NC	NA	NI	NA	
2	2	2	5	1	7
5	5	3	5	0	10
16	4	2	5	0	9
20	2	0	5	2	7
37	3	3	4	1	7
109	3	3	5	0	8
111	7	3	2	0	9
112	2	2	5	2	7
202	5	2	5	0	10
205	0	0	5	2	5
210	0	0	5	4	5
211	0	0	4	1	4
1201	2	2	5	0	7
NF4	0	0	5	3	5
CE1	1	1	0	0	1
TOTAL	36	23	65	16	101

NC = Number of Cavities

NI = Number of Inserts

NA = Number of Cavities or Inserts Active

Figure 2.

Recruitment Clusters March 2016

Stand Type	Stand Number	Year Available
AC	25	2003
AC	32	2009
AC	24	2013
AC	31	2013
AC	105	2013
R	137	1992
R	11	1993
R	18	1996
R	204	2005
R	206	2006
R	211	2007
R	212	2009
R	213	2009
R	1201	2012
R	1202	2012
R	1203	2012
R	3	1993
R	4	1993
R	6	1993
R	16	1996
R	19	1996
R	22	1998
R	23	1998
R	27	1998
R	200	2005
R	203	2005
R	208	2007

Number Stands Available = 27

Stand Types: R=Recruitment AC=Abandoned Cluster

Figure 3.

RCW NESTING RESULTS 2015

C L U S T E R	I N I T I A T I O N D A T E	N U M B E R E G G S L A I D	N U M B E R H A T C H E D	N U M B E R B A N D E D	N U M B E R I N N E S T	N E S T L I N G S F L E D G E D	T o t a l F l e d g e d	J U V E N I L E S B A N D E D
2	23-Apr	4	3	3	3	1M,2F	3	
5	6-May	3	1	1	1	1U	1	1
16	20-May	3						
20	4-May	4	2	1	1			
37	1-May	1						
Renest	22-May	2	2	2	2			1
109	23-Apr	6	2	2	2	1M,1F	2	
111	23-Apr	3	3	3	3	1M,1F,1U	3	
112	1-May	3	3	1	3	2U	2	
202	NNA							
205	4-May	3						1
1201	1-May	4	3					
NF 4	4-May	3	3	3	3	2M,1F	3	
Totals		39	22	16	18		14	3

Footnotes:

Nesting Attempts = 12

Potential Breeding Groups = 13

Number of Successful Nests = 6

Nest Loss at Clusters = 6

Figure 4. Red-cockaded Woodpeckers Banded & Trapped in 2015

Cluster Trapped	Band Number	Band Color			Age at Trapping	Site First Banded	Recruit. Year	Previous Observations
		Left	Right	Sex				
2	2301-02813	PA	LgDb	F	A	205	*2008	C2/2013
2	2301-89401	DbDg	OA	M	A	R16	TX - 2009	C2/2014
2	2651-19101				N		2015	None
2	2651-19102				N		2015	None
2	2651-19103				N		2015	None
5	2301-89488	BIA	MW	F	A	R210	TX - 2010	C5/2014
5	2301-02832	WA	YW	M	A	2	2011	C5/2014
5	2651-19111	YA	DbO	F	J		2015	None - 2015 Fledgling
20	2301-02862	WA	DgLb	M	A	16	2012	C20/2014
20	2301-02864	OA	DgPu	F	A	20	*2012	C20/2014
20	2651-19110				N		2015	None
37	2531-60966	PuBl	LbA	F	A	37	AR - 2012	C37/2014
37	2651-19112				N		2015	None
37	2651-19113				N		2015	None
37	2651-19116	YA	DbPu	F	J		2015	None - 2015 Fledgling
109	2301-02834	WW	PuA	M	A	112	2011	C112/2013
109	2301-02858	WA	DgP	F	A	111	2012	C109/2014
109	2301-02896				N		2015	
111	2301-02897				N		2015	
111	2301-02989				N		2015	
111	2301-02899				N		2015	
111	8081-99894	GP	WA	M	A	111	2002	C111/2014
112	2301-02818	PA	LgY	F	A	105	2009	C112/2014
112	2301-02824	WY	PA	M	A	111	2010	C112/2012
112	2651-19109				N			
112	2651-19114	YA	DbY	M	A		*2015	NBAC
205	2301-02880	DgW	PuA	M	A	25	*2013	C205/2014
205	2651-19117	YA	DbP	F	J		2015	None - 2015 Fledgling
210	2301-02848	OA	DgP	F	A	2	2012	
210	2301-02869	DgO	WA	M	A	16	2013	C210/2014
1201	2301-02877	DgDb	WA	M	A	111	2013	C1201/2014
1201	2651-19104				N			
1201	2651-19105				N			
1201	2651-19118	YA	BbBl	F	A		*2015	NBAC
NF4	2651-19106				N		2015	
NF4	2651-19107				N		2015	
NF4	2651-19108				N		2015	
NF4	2651-19115	YA	DbW	F	A		*2015	NBAC
NF4	2301-02888	WA	DgPu	M	A	NF5	2014	NF5/2014
NF4	2531-59976	Ydb	YA	M	A	NF4	TX - 2012	NF4/2014

A = Adult

J = Juvenile

N = Nestling

NBAC = No Bands At Capture

Indicates Previously Translocated Bird

Indicates 2015 Fledgling

*** Indicates Unknown Recruitment Year**

Figure 5.

2015 – 2016 Spatial Distribution of Red-cockaded Woodpecker Clusters on McCurtain County Wilderness Area (MCWA) and Ouachita National Forest (ONF) in Oklahoma

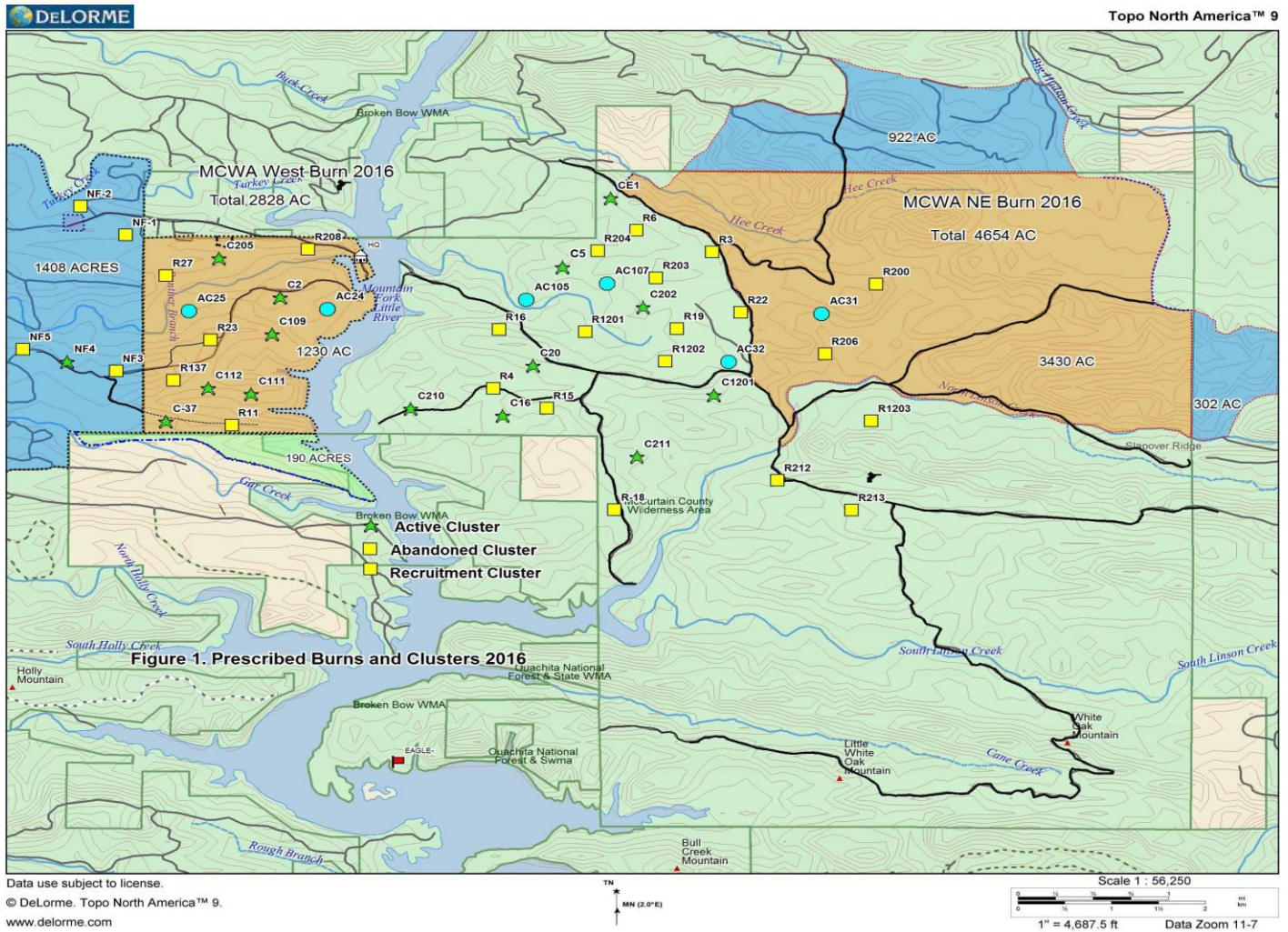


Figure 6.



Breeding adult Red-cockaded Woodpecker (*Picoides borealis*) on Cluster NF4, Ouachita National Forest, McCurtain Co. (Credit: Tom Wipple, w/permission)

Figure 7.



Oklahoma Department of Wildlife Conservation personnel preparing cavities in March for the upcoming nesting season; condition of each cavity (both natural and artificial) is assessed and Southern Flying Squirrels, if present, are removed accordingly. *(Credit: Matt Fullerton/ODWC)*

Figure 8.



Adult Red-cockaded Woodpecker trapped in late summer/early fall; during fall trapping, fledglings are captured and outfitted with colored bands. (Credit: Matt Fullerton/ODWC)