FINAL PERFORMANCE REPORT

Federal Aid Grant No. F13AP00782 (E-56-5)

Mid-Story Thinning to Enhance Habitat for the Red-cockaded Woodpecker on the McCurtain County Wilderness Area

Oklahoma Department of Wildlife Conservation

April 1, 2014 through March 31, 2015

FINAL PERFORMANCE REPORT

STATE: Oklahoma **GRANT NUMBER:** F13AP00782 **(**E-56-5)

GRANT TITLE: Mid-story Thinning to Enhance Habitat for the Red-cockaded Woodpecker on the McCurtain County Wilderness Area

GRANT PERIOD: April 1, 2014 - March 31, 2015

PRINCIPAL INVESTIGATOR: John Skeen, Wildlife Biologist, Oklahoma Dept. of Wildlife Conservation

ABSTRACT:

During the period of this grant, April 1, 2014 to March 31, 2015, 226 acres were thinned to restore woodland stand structure and enhance habitat quality for the resident population of Red-cockaded Woodpeckers on the McCurtain County Wilderness Area. This increases the total area of woodland restoration on the McCurtain County Wilderness Area to 7,378 acres. This work was accomplished with three to four temporary chain saw operators that were employed by the Oklahoma Department of Wildlife Conservation annually. Some acres were re-cut during 2014 to remove woody understory regrowth (primarily stump sprouts) that the prescribed winter burns did not top kill. The remaining areas to which midstory thinning is desired is reported and totals 469 acres.

OBJECTIVE:

Enhance habitat quality for Red-cockaded Woodpecker by thinning mid-story vegetation on 525-625 acres of existing pine-oak forest in close proximity to occupied cavity trees and the designated recruitment stands that contain suitable but unoccupied cavity trees.

BACKGROUND:

The Red-cockaded Woodpecker (RCW) occurs in a narrow range of habitat conditions and 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 Red-cockaded Woodpecker is found in mature shortleaf pine woodlands and savannahs 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 mid-story vegetation.

In Oklahoma, the last known population of RCW's resides within the state-owned McCurtain County Wilderness Area (MCWA) and adjacent Ouachita National Forest. Mid-story closure and reduced recruitment of young shortleaf pines in this historically pine-dominated forest are two of the primary threats facing these remaining clusters. Since 1992, prescribed winter and spring burns have been conducted on portions of the MCWA in an effort to control young hardwoods and mid-story encroachment. However, it has become apparent that while prescribed burning is an important tool for maintaining an open forest structure, burning alone cannot effectively alter the structure of an already established mid-story. Since 1992, selected mid-story hardwood trees have been cut manually to create open, pine woodland corridors linking active RCW clusters and recruitment stands. The creation of corridors, enhancement of foraging habitat, and the other Red-cockaded Woodpecker recovery efforts on the MCWA were important in stabilizing the population over a number of years. Augmentation has also been an important part of the recovery effort with the translocation of five pairs of RCW from the Sam Houston National Forest in 2009, six pairs in 2010 (1 pair from AR), and five pairs in 2012. Along with the continuing translocations, additional mid-story thinning is needed to improve foraging and nesting habitat conditions and to promote increased RCW productivity.

Mid-story thinning and habitat restoration on the McCurtain County Wilderness Area complements the on-going efforts by the Ouachita National Forest to restore approximately 50,000 acres on its adjacent Management Area 22 to a shortleaf pine woodland/savannah habitat condition. This management will benefit locally rare species including the RCW, Bachman's Sparrow and Brown-headed Nuthatch which require open, mature pine woodland habitat. Improved habitat conditions at the landscape level (e.g. McCurtain County Wilderness Area and Ouachita National Forest) will support a much larger population size and improve the prospects for the long-term viability of RCW's in Oklahoma and the western Ouachita Mountains.

PROCEDURES:

Potential areas for mid-story thinning were delineated based upon their likelihood to support a shortleaf pine/bluestem woodland habitat and their proximity to active RCW clusters, foraging habitats, and recruitment stands. The areas chosen for thinning during the segment were on the area's north, east, and south sides in Sections 1, 6, 14, 15, and 19 in T03S, R25E (Fig. 1).

Project personnel marked the boundaries for the thinning blocks and laid out access trails within the blocks. Most hardwood trees between 1 and 10 inches dbh were cut except for selected species; these included flowering dogwood, serviceberry and rusty black haw that were to be left uncut. Any heavy slash was moved at least 3 feet from mature pines to reduce the fuel around these trees during prescribed burns.

Previously thinned areas were systematically inspected and portions that required additional thinning or where significant regrowth was present were flagged and re-cut to achieve the needed stand characteristics e.g. tree spacing and open understory. Regrowth had occurred in some portions because fire intensity in one or more of the previous burning rotations was not sufficient to achieve a total top kill of hardwood saplings.

RESULTS AND DISCUSSION:

Thinning work in this grant segment began in April of 2014 and continued until March of 2015. During this period, approximately 226 acres (Fig. 1 and 2) were thinned in three areas. During all years of the project, from September of 2010 through March of 2015, 1,879 acres were thinned (Fig 3). This brings the total area treated on the McCurtain County Wilderness Area to 7,378 acres (Fig 3). All of the mid-story thinning/woodland restoration work was accomplished by three to four hourly employees of the Oklahoma Department of Wildlife Conservation that were hired on an annual, temporary basis. The acreages of the cut areas reported here were adjusted by subtracting what, if any, had been previously treated. In addition to the newly-cut area, designated areas, often near active clusters and recruitment stands, received additional thinning to remove midstory regrowth that prescribed burns had not top killed (Fig. 2). Five tracts remain that are suitable for shortleaf pine woodland restoration and we would like to apply selective midstory thinning to these stands in the subsequent year of this grant. These areas total 469 acres and are adjacent to the area that was thinned in 2010 (Fig 4).

SIGNIFICANT DEVIATIONS:
None

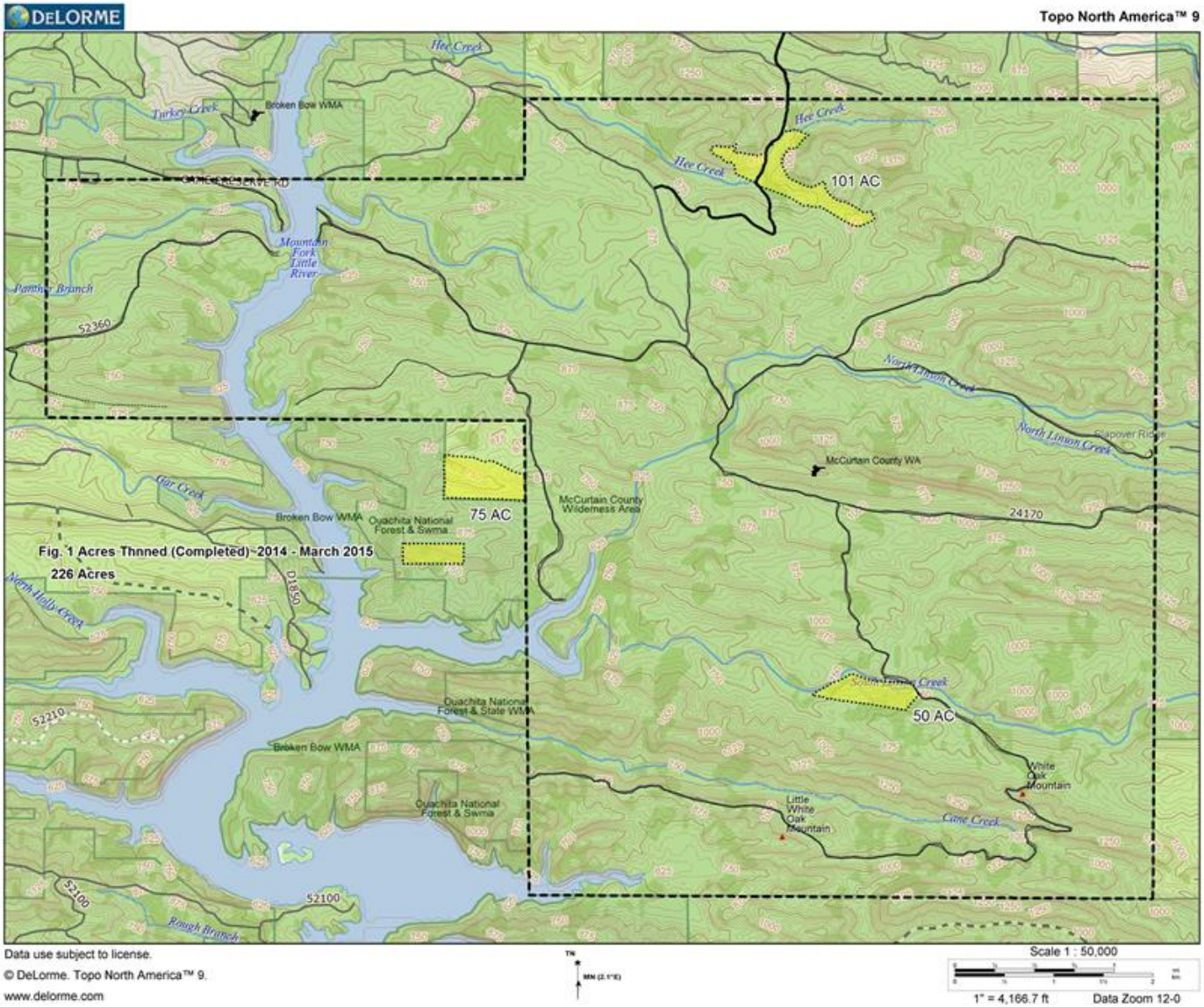
PREPARED BY: John Skeen, Senior Wildlife Biologist

DATE: April 13, 2015

APPROVED BY: _____
Andrea Crews, Federal Aid Coordinator
Oklahoma Department of Wildlife Conservation

APPROVED BY: _____
Wildlife Division Administration
Oklahoma Department of Wildlife Conservation

Figure 1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Hee Creek
Turkey Creek
Broken Bow WMA
Hee Creek
Hee Creek
101 AC
Mountain Fork Little River
Panther Branch
52360
North Limon Creek
Glover Ridge
McCurtain County WA
Gar Creek
Broken Bow WMA
Ouachita National Forest & Swma
75 AC
McCurtain County Wilderness Area
24170
Fig. 1 Acres Thnned (Completed) -2014 - March 2015
226 Acres
North Holly Creek
D1850
Ouachita National Forest & State WMA
50 AC
52210
Broken Bow WMA
White Oak Mountain
Ouachita National Forest & Swma
Little White Oak Mountain
Cane Creek
52100
52100
Rough Branch
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Scale 1 : 50,000
1" = 4,166.7 ft
Data Zoom 12-0

Figure 2

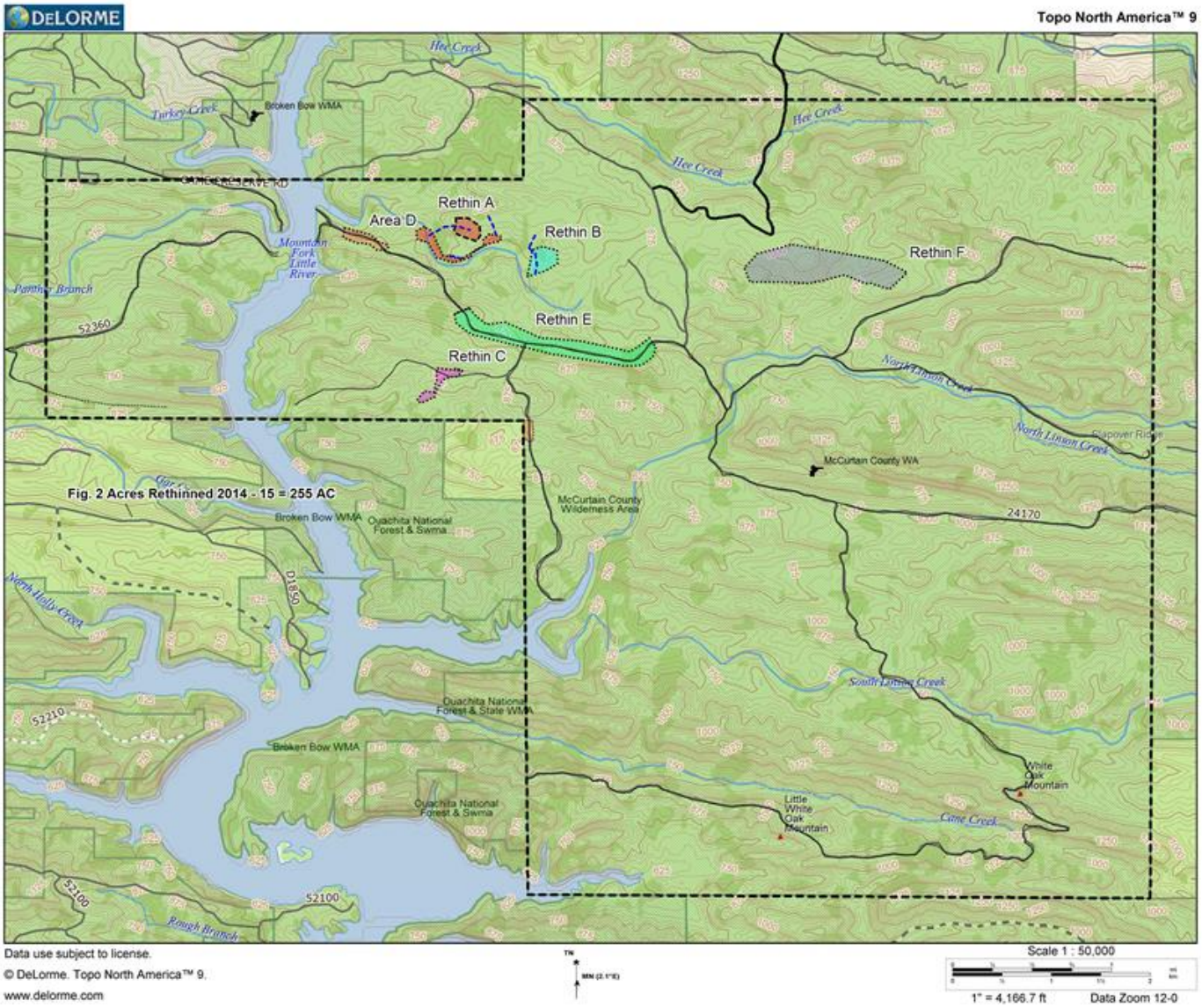
DeLORME
Topo North America™ 9
Hee Creek
Turkey Creek
Broken Bow WMA
Rethin A
Area D
Rethin B
Rethin F
Rethin E
Rethin C
Mountain Fork Little River
Panther Branch
52360
Fig. 2 Acres Rethinned 2014 - 15 = 255 AC
Broken Bow WMA
Ouachita National Forest & Swma
McCurtain County Wilderness Area
McCurtain County WA
North Limon Creek
24170
D1850
North Holly Creek
Ouachita National Forest & State WMA
52210
Broken Bow WMA
Ouachita National Forest & Swma
Little White Oak Mountain
White Oak Mountain
Cane Creek
52100
Rough Branch
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Figure 3

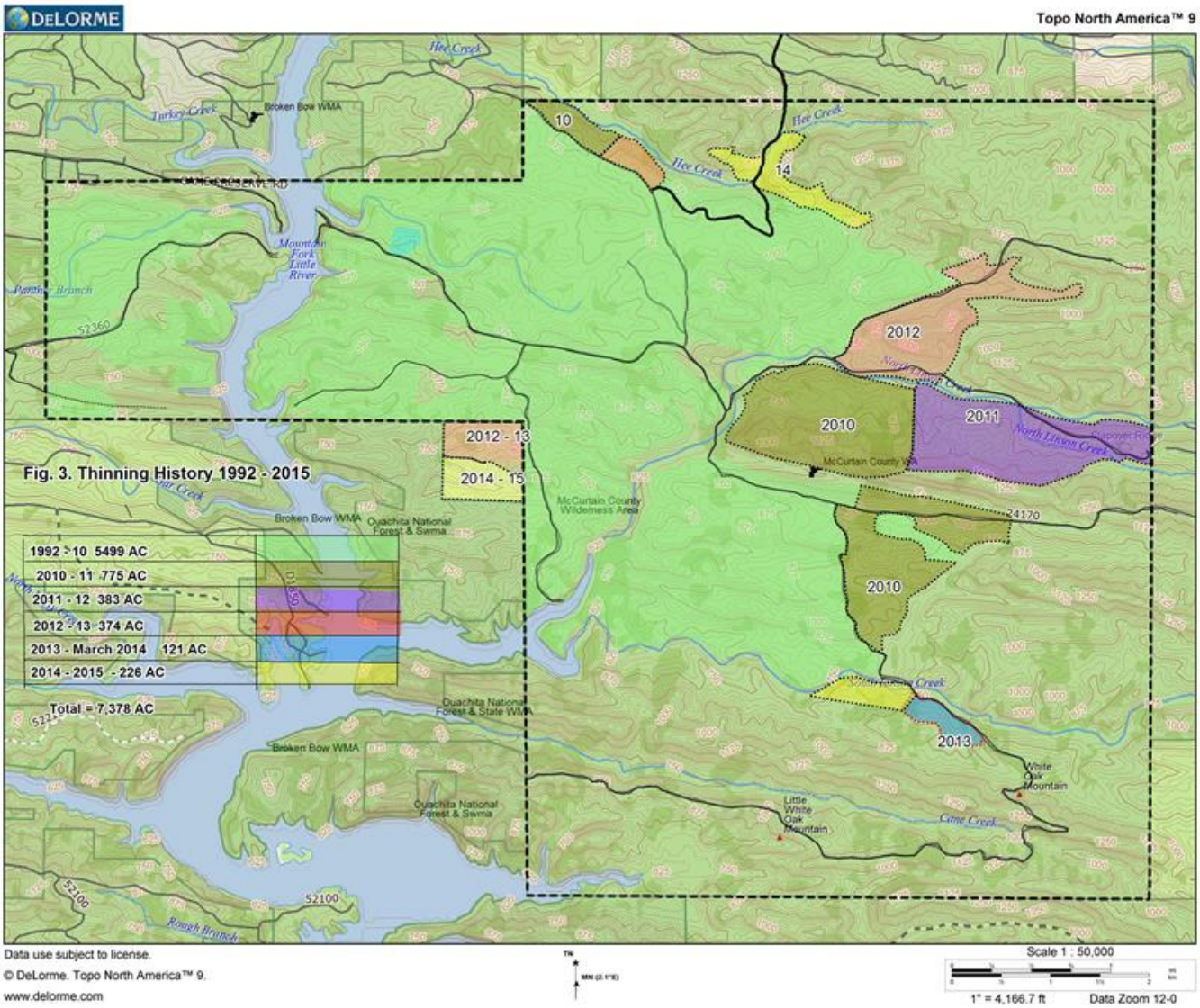
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Fig. 3. Thinning History 1992 - 2015
1992 - 10 5499 AC
2010 - 11 775 AC
2011 - 12 383 AC
2012 - 13 374 AC
2013 - March 2014 121 AC
2014 - 2015 - 226 AC
Total = 7,378 AC
2012 - 13
2014 - 15
10
14
2012
2010
2011
2010
2013
Broken Bow WMA
Ouachita National Forest & Swma
McCurtain County Wilderness Area
Ouachita National Forest & State WMA
Hee Creek
Turkey Creek
Mountain Fork Little River
North Lukfata Creek
North Lukfata Creek
Cane Creek
White Oak Mountain
Little White Oak Mountain
Rough Branch
52360
52100
24170
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Figure 4

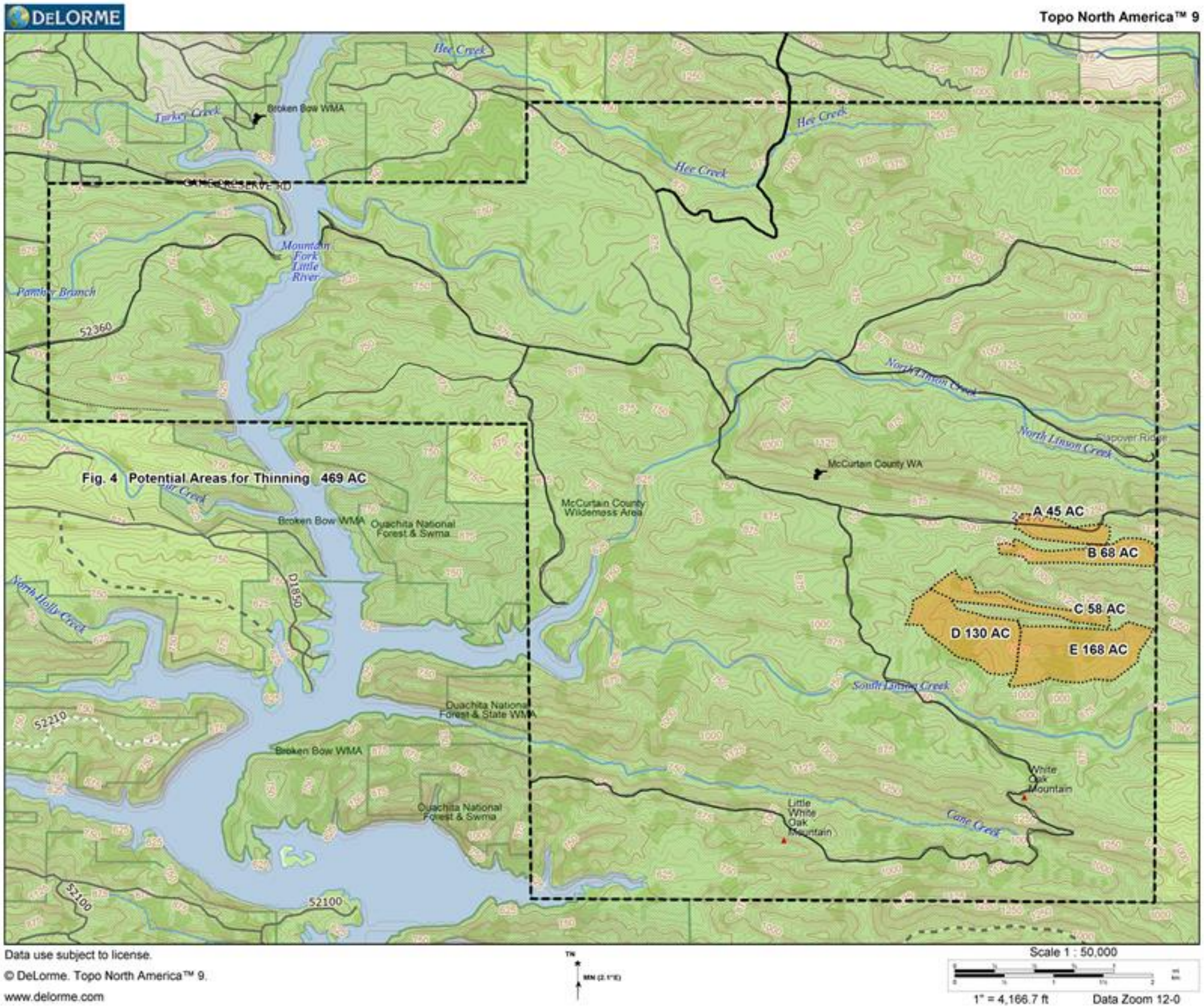
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Fig. 4 Potential Areas for Thinning 469 AC
A 45 AC
B 68 AC
C 58 AC
D 130 AC
E 168 AC
Hee Creek
Turkey Creek
Broken Bow WMA
Mountain Fork Little River
Panther Branch
North Linson Creek
South Linson Creek
McCurtain County WA
McCurtain County Wilderness Area
Ouachita National Forest & Swma
Ouachita National Forest & State WMA
North Holly Creek
Cane Creek
White Oak Mountain
Little White Oak Mountain
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Data Zoom 12-0