

**2007 STATE WILDLIFE GRANT:  
IMPLEMENTING STATE WILDLIFE ACTION PLAN STRATEGIES IN THE  
WEST GULF COASTAL PLAIN SANDHILL OAK – SHORTLEAF PINE FOREST  
AND WOODLANDS TO BENEFIT CWCS SPECIES OF CONCERN**

*Completion of Deliverable October 27<sup>th</sup>, 2008*

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***Project Area: The Arkansas Sandhill Ecosystem***

Sandhills occur as a belt of residual alluvial sands along the upper gulf coastal plain of the southeastern US (Roberts 1978). The soils are deep, droughty sands with extensive seepage zones. Periodic drought, seepage, and fire maintain the structure and composition of the plant communities.

The sandhill ecosystem in Miller, Ouachita, and Nevada Counties comprises a mosaic of upland plant communities interspersed with seeps that occur in small creeks between sandhills. The sandhill ridgetops and upper slopes support dry sandhill woodland which has a stunted gnarly canopy of xeric oaks. Openings in the woodlands, also on ridgetops and drier south and southwest facing slopes, are xeric sand barrens. Both of these communities occur within a matrix of the more common dry-mesic sandhill woodland. Three seep communities are found between the sandhill uplands at the bases of slopes: wooded sandhill seep, saturated sandhill shrub seep, and herbaceous sandhill marsh.

***Project Description***

The Nature Conservancy will restore an ecological fire regime and reduce stem densities at the Central Sandhills and Miller County Sandhills sites (Appendix A). Before conducting burns, ecologically-based, peer-reviewed burn plans and thinning treatments will be developed and approved. Burns will be conducted by trained TNC burn crew and lead by a TNC burn boss with a NWCG certification rating of RXB2. Thinning treatments will be accomplished by a professional forestry consultant.

***Project Objectives***

The Nature Conservancy will conduct prescribed burns and ecological thinnings on 1,000 acres within the Arkansas Sandhill Ecosystem in Nevada, Ouachita, and Miller Counties. The reintroduction of fire, coupled with the overstory thinnings, will enhance wildlife habitat by opening up sandhill woodlands, reducing the abundance of non-native species,

favoring native warm season grasses and forbs, increasing the size and connectedness of woodland habitats and restoring structure to the degraded woodlands.

Fire management objectives:

- Restore fire to 1,000 acres once within two years, with average 80% unit coverage.
- Attain moderate overall burn intensity for 50% of the burns.

Thinning treatments objectives:

- Where necessary thin dense stands, pre- or post-fire, to the desired density.

*Deliverables:*

- Write burn plans and thinning prescriptions for treatment areas.
- Install fire lines around burn units.
- Implement prescribed burns on 1,000 acres.
- Conduct ecological thinning in priority stands.
- Complete post-fire effects / thinning prescription, monitoring and operational reports after each treatment.
- Enter monitoring methodology in the Natural Resources Monitoring Partnership database.
- Update Comprehensive Wildlife Conservation Strategy database.
- Update scientific community on conservation action outcomes.
- Inform public via article in TNC publication and personal communications.

***Completion of Deliverable***

Conduct ecological thinning in priority stands.

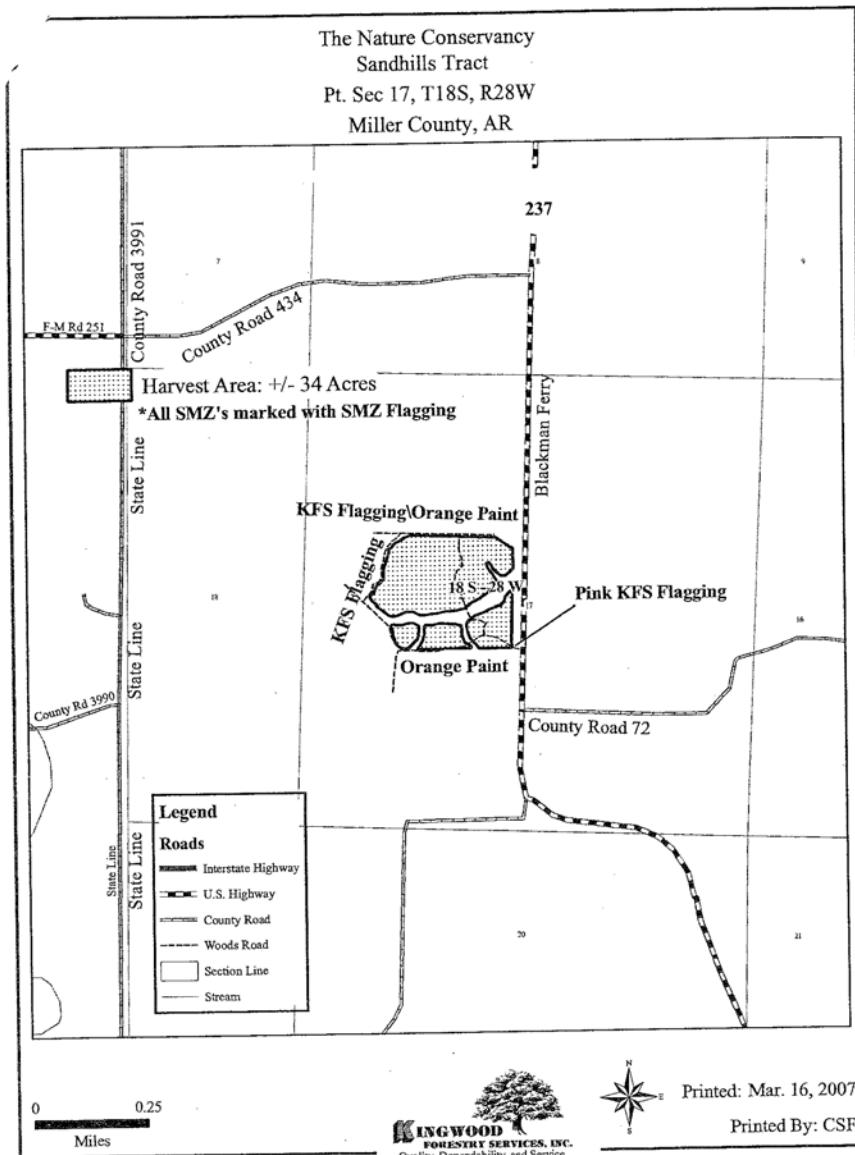
The Nature Conservancy developed thinning prescriptions and contracted thins on seven tracts of land within the Sandhills restoration site. The Nature Conservancy carried out ecological thinning on seven tracts of land for a total of 560 acres thinned. Two tracts were first thins and accounted for 198 acres. Four tracts were second thins and accounted for 328 acres. One tract, Miller County “IP Tract”, was an ecological thin on a mix of overly dense regenerated pine and overgrown plantation pine. Thins were conducted from September to December 2007. Basal area was to be reduced to a range of 50 to 65 square feet depending on the site. Nature Conservancy staff visited the sites while active harvesting was going on to ensure contractor was cutting within prescription limits and they were found to be operating in accordance. Sites were also visited post harvest to evaluate the thin and contractor work. Thinning prescriptions and site maps can be found in Attachment I. A table for sites acres and prescribed basal area follows.

<b>Area</b>	<b>Acres</b>	<b>Thin Prescription</b>	<b>Category of Thin</b>
Miller County "IP Tract"	34	50 B.A.	Ecological Thin /Naturally regenerating pine
Kirk Tract	63	60 -65 B.A. 150 -200 trees/acre	First Thin
Chidester Tract	135	60 -65 B.A. 150 -200 trees/acre	First Thin
Tract 1, Ouachita County	328 acres for all four tracts.	50 – 65 B.A. 100 – 175 trees/acre	Second Thin
Tract 2, Ouachita County		50 – 65 B.A. 100 – 175 trees/acre	Second Thin
Tract 3, Nevada County		50 – 65 B.A. 100 – 175 trees/acre	Second Thin
Tract 4, Nevada County		50 – 65 B.A. 100 – 175 trees/acre	Second Thin

ATTACHMENT I  
**THINNING PRESCRIPTIONS**

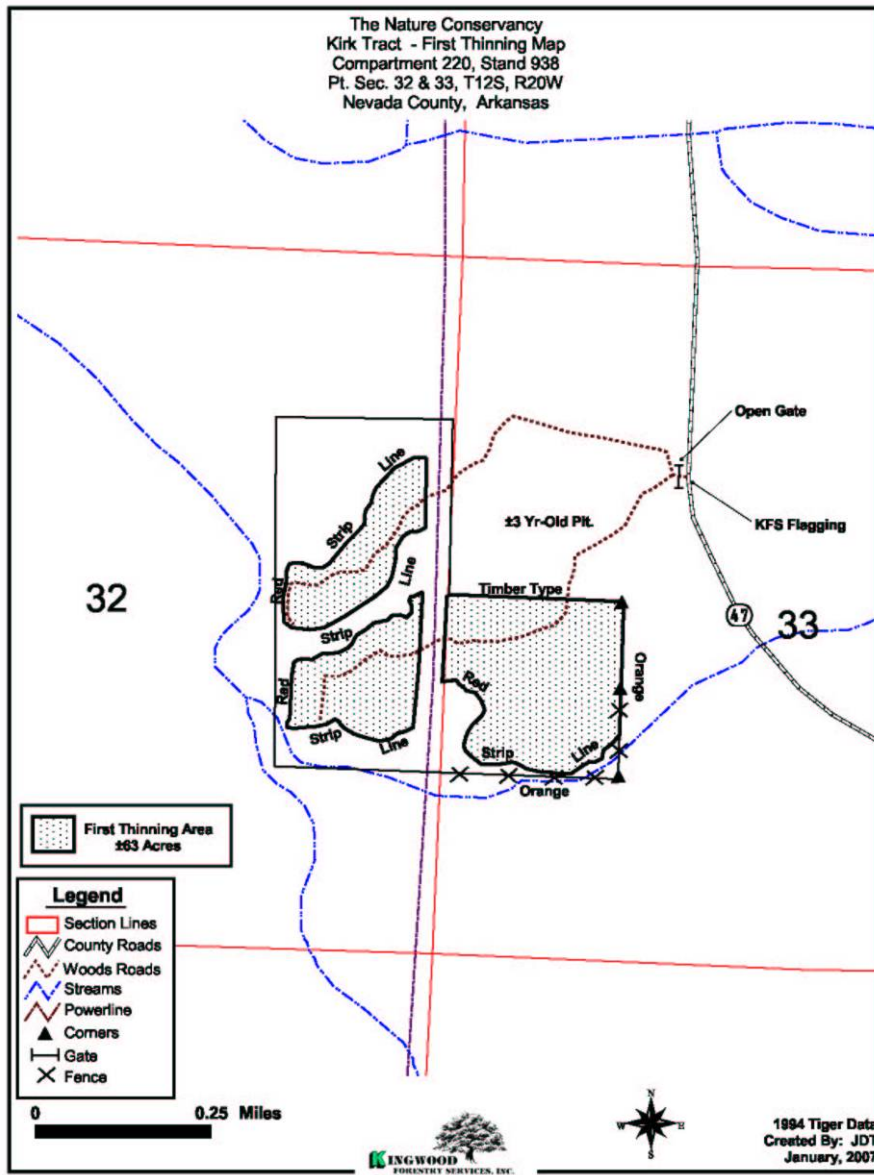
Miller County Sandhills: IP Tract, 34 acres

**Thinning Prescription:** TNC/ARFO proposes to mechanically thin about 34 acres of loblolly pine (older plantation) timber. All merchantable pine timber will be sold **EXCEPT** pine marked with blue paint and “Do Not Cut” flagging. Any shortleaf pine trees found on the thinning area are marked to leave. The basal area to be left standing is approximately 50 square feet per acre. This is a restoration thinning of a 25 year old, overly dense, IP pine plantation. The sale will be prepared and bid by a third party consultant, Kingwood Forestry. The timber will be conveyed by an 18 month timber deed.



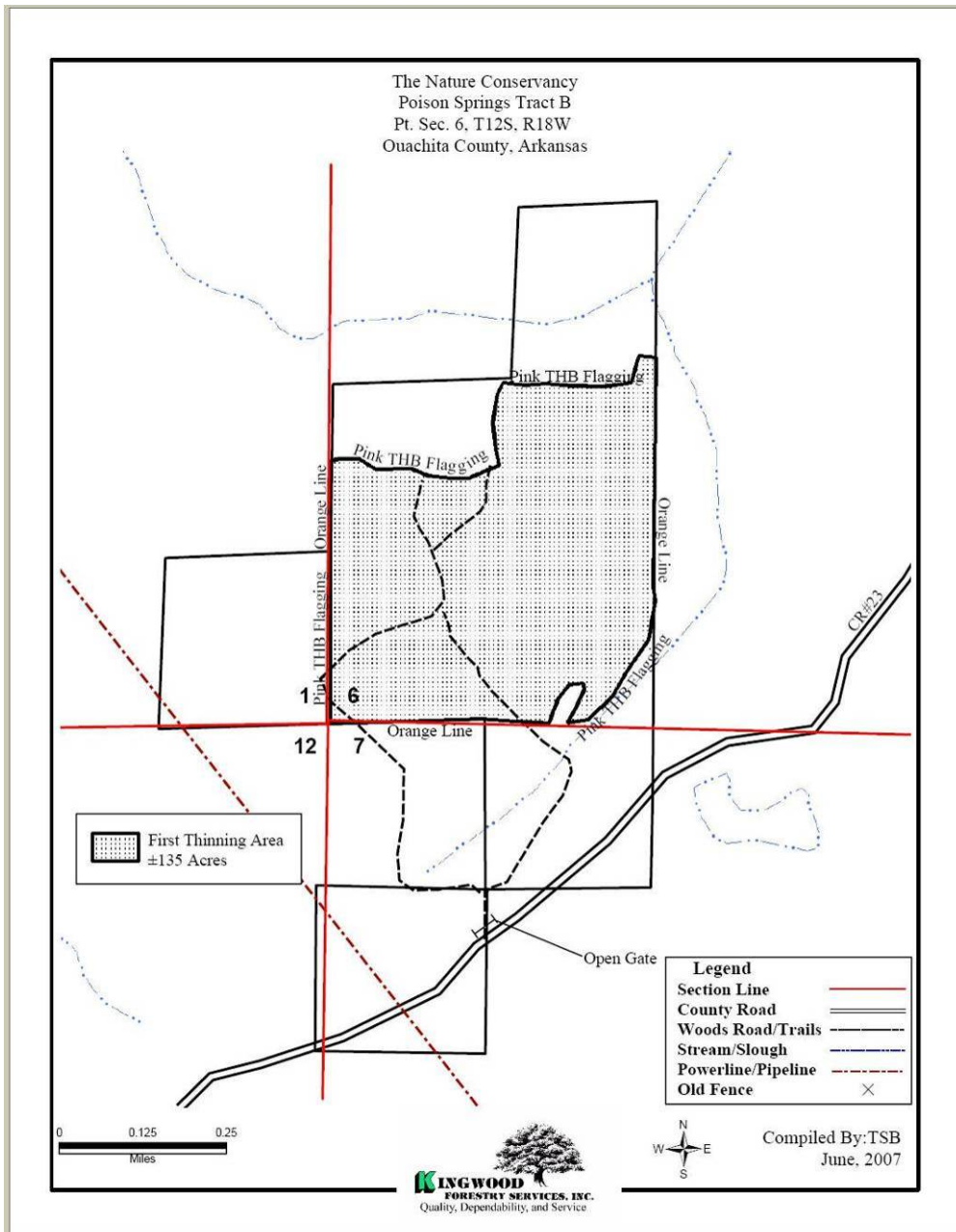
Kirk Tract, 63 acres (First Thin)

**Thinning Prescription:** The Contractor shall cut timber in areas specifically designated by TNC on land owned by TNC. The timber to be cut is pine pulpwood. The method of cutting will be operator select as follows: every third row removed and the remaining two rows thinned to approximately 60 to 65 square feet of basal area per acre. This method should leave from 150 to 200 trees per acre when complete. To be conducted in accordance with Cutting and Operating Instructions for Contractor ((Exhibit D) Found at the end of this attachment).



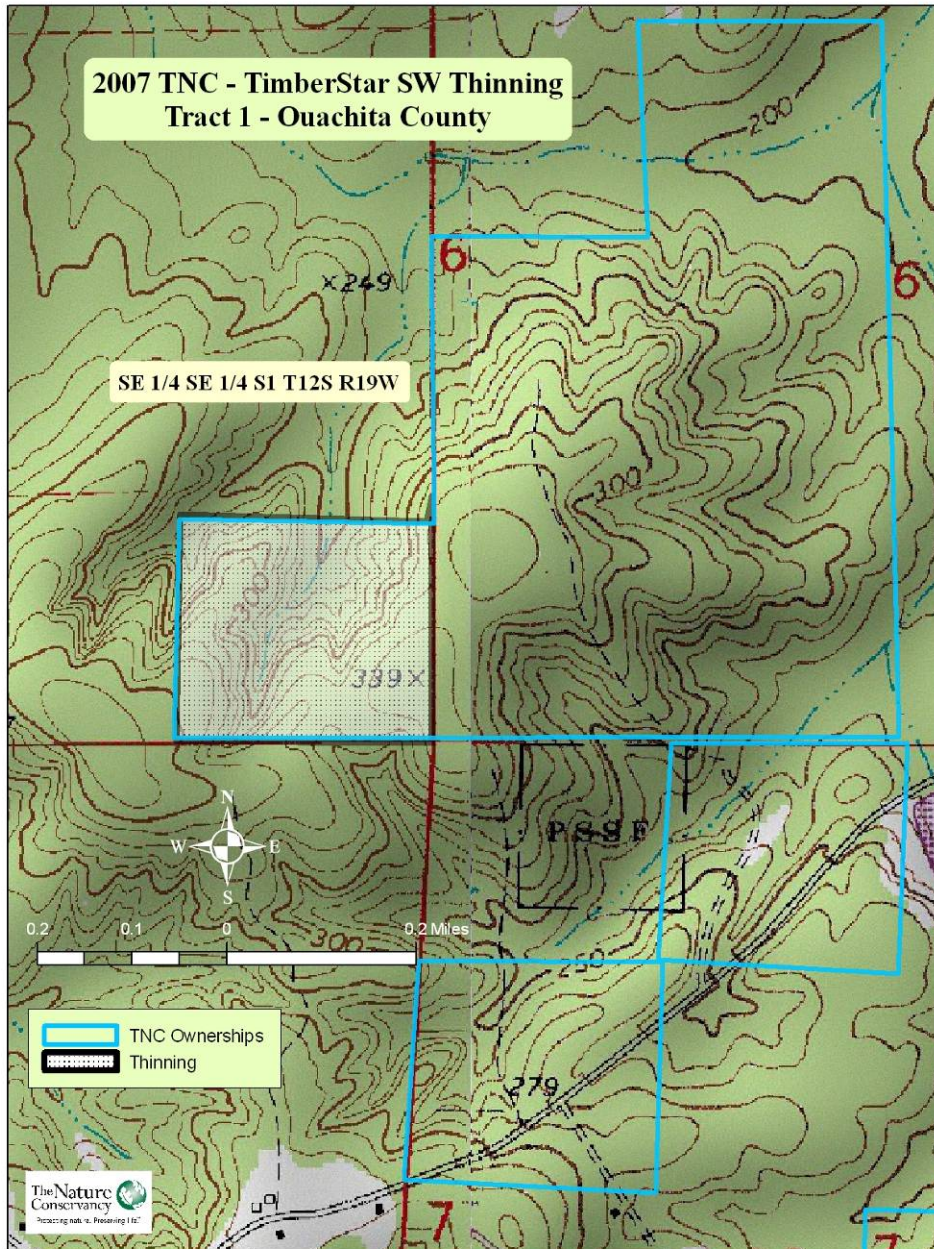
Chidester Tract (IP Tract B), 135 acres (First Thin)

**Thinning Prescription:** The Contractor shall cut timber in areas specifically designated by TNC on land owned by TNC. The timber to be cut is pine pulpwood. The method of cutting will be operator select as follows: every third row removed and the remaining two rows thinned to approximately 60 to 65 square feet of basal area per acre. This method should leave from 150 to 200 trees per acre when complete. To be conducted in accordance with Cutting and Operating Instructions for Contractor ((Exhibit D) Found at the end of this attachment).



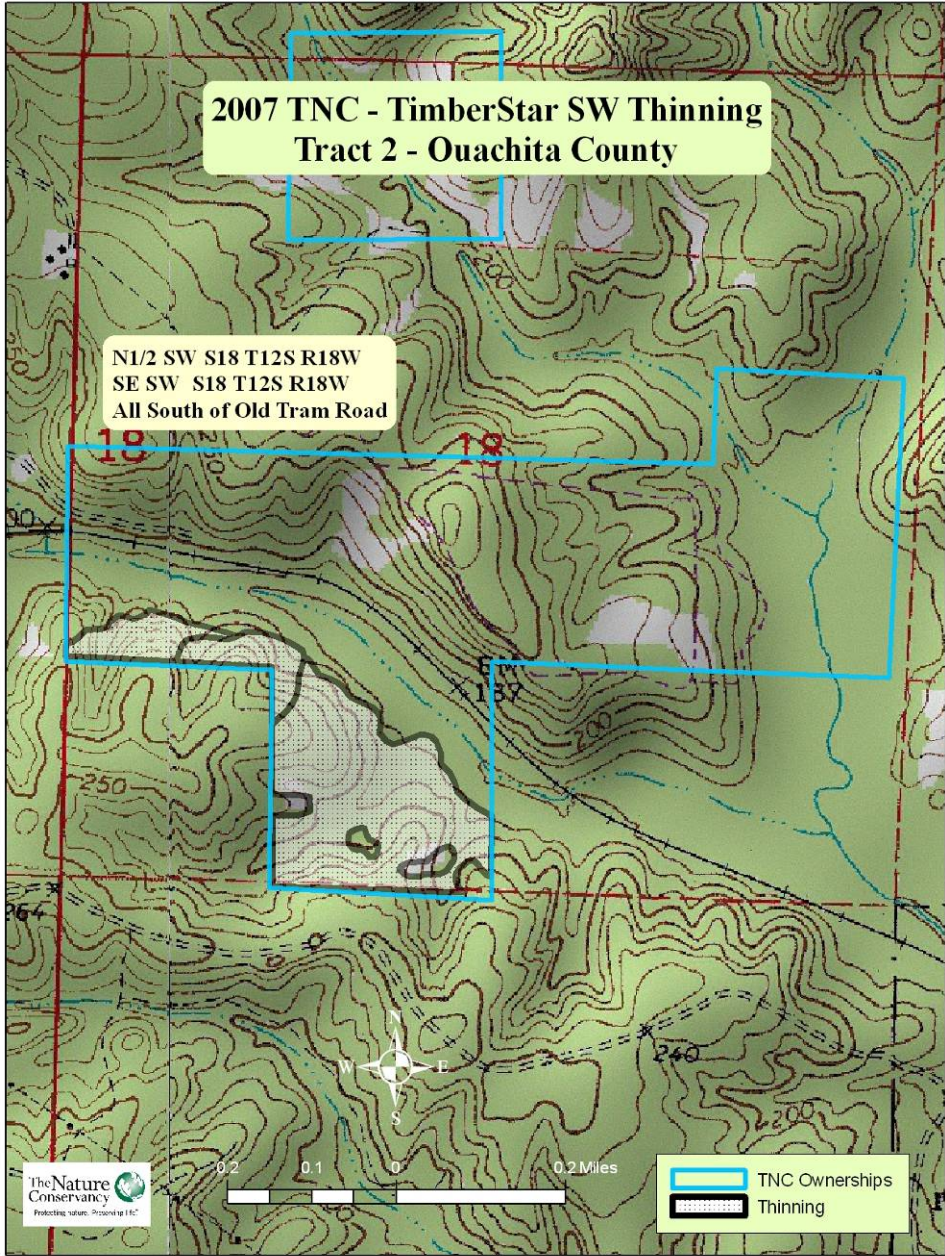
Tracts 1-4 Ouachita and Nevada County, 328 acres (Second Thins)

**Thinning Prescription:** The Contractor shall cut timber in areas specifically designated by TNC on land owned by TNC. Except for the Additional Products (defined below) permitted to be cut pursuant to paragraph A(6) below, the timber to be cut is pine pulpwood. The method of cutting will be operator select as follows: thinned to approximately 50 to 65 square feet of basal area per acre. This method should leave from 100 to 175 trees per acre when complete. To be conducted in accordance with Cutting and Operating Instructions for Contractor ((Exhibit D) Found at the end of this attachment).



**2007 TNC - TimberStar SW Thinning  
Tract 2 - Ouachita County**

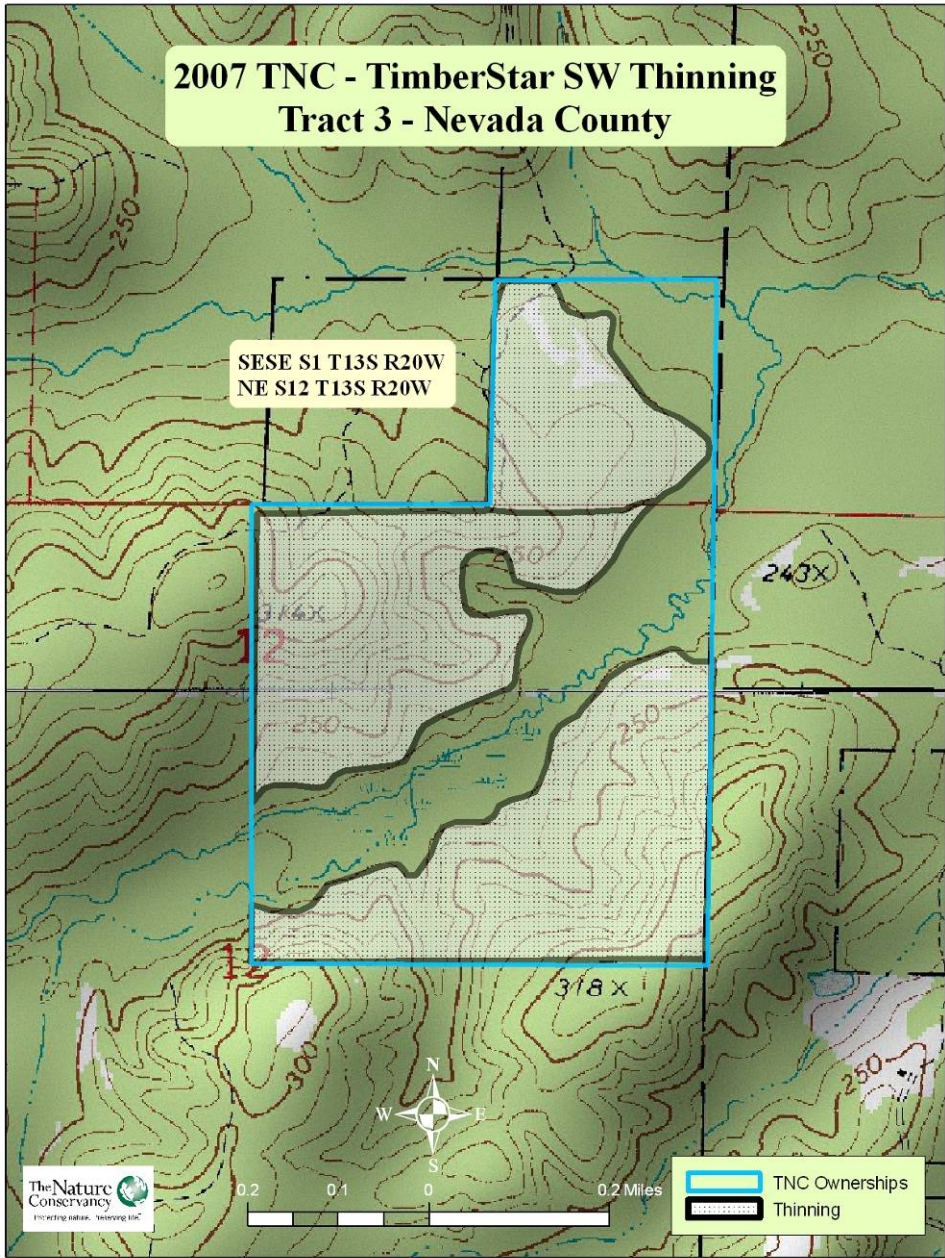
N1/2 SW S18 T12S R18W  
SE SW S18 T12S R18W  
All South of Old Tram Road





**2007 TNC - TimberStar SW Thinning  
Tract 3 - Nevada County**

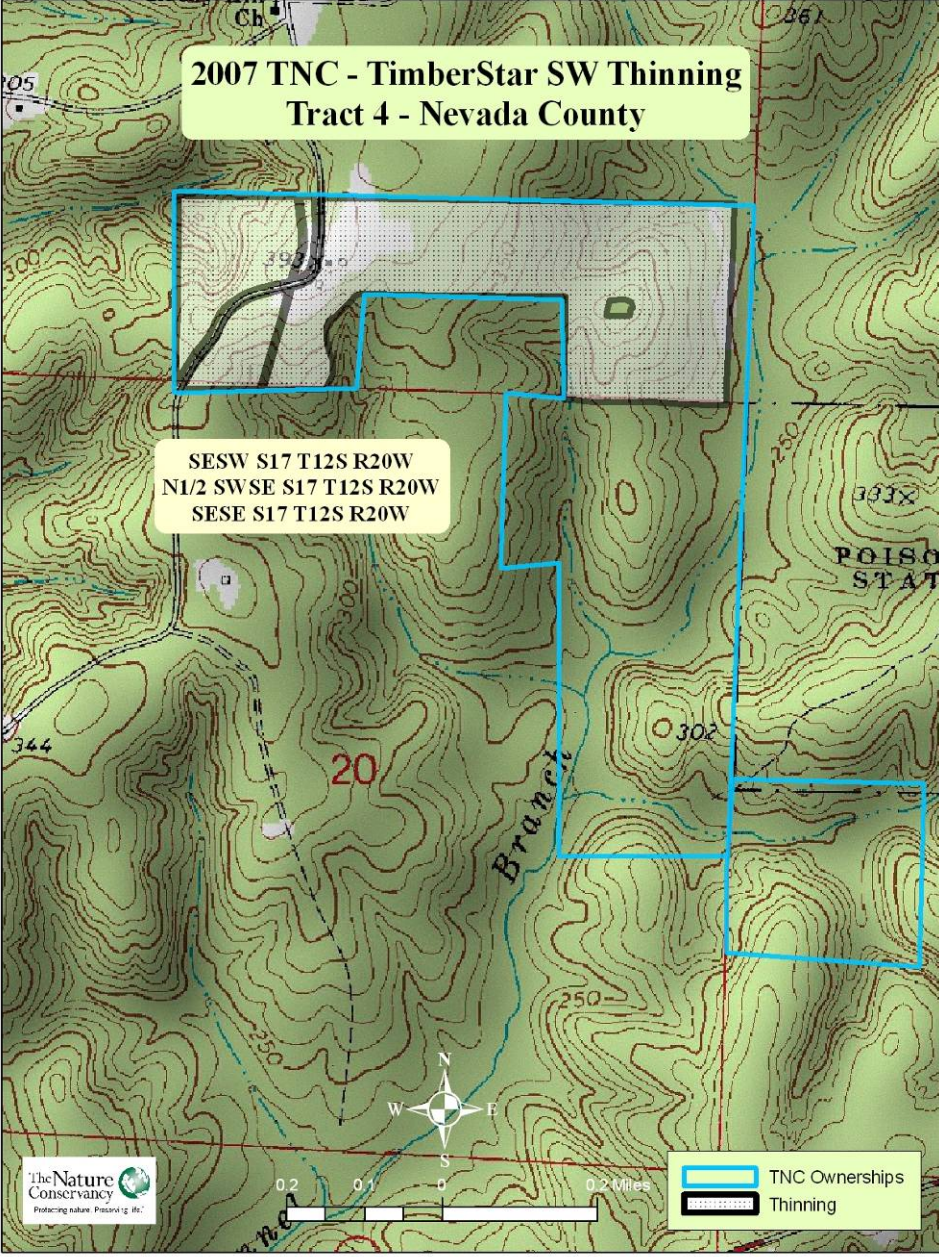
SESE S1 T13S R20W  
NE S12 T13S R20W





TNC Ownerships  
Thinning

**2007 TNC - TimberStar SW Thinning  
Tract 4 - Nevada County**

SESW S17 T12S R20W  
N1/2 SWSE S17 T12S R20W  
SESE S17 T12S R20W



 TNC Ownerships  
 Thinning

## **EXHIBIT D**

### **Cutting and Operating Instructions for Contractor**

**1) OPERATIONAL REPORTING:** Contractor shall report the commencement, any interruption, recommencement, or completion of harvesting operations by telephone to TNC at least twenty-four (24) hours before such event. TNC shall determine the sequence in which the timber shall be harvested.

**2) STUMPAGE REPORTING:** The parties hereto agree that Contractor shall, throughout the period of this Contract, make weekly reports to TNC as to the type, species, and weight of the timber cut and delivered to the mill specified by TNC, or its designated place or places, by furnishing to TNC a weekly report as to type, species, and volume of timber cut using TNC's Wood Accountability Form (Exhibit C), attached to and made a part of the Contract, and copies of all scale weight tickets for said timber

**3) SETTLEMENT:** The designated receiving mill(s) shall scale or weigh each load of pine pulpwood cut from this property as it reaches the woodyard and TNC agrees to pay the Contractor for cutting and hauling the wood on a weekly basis, based on the scale or weight received from the receiving mill(s). This payment to the Contractor is to be made on or before the tenth day of the receipt of the wood settlement(s) from the receiving mill(s). The checks are to be made to Contractor, and to be mailed to 150 Airport Road, Hope, AR 71801 along with a settlement sheet and copies of the scale or weight tickets.

**4) WOOD UTILIZATION/MERCHANDISING:** The Contractor agrees to cut the trees in such a manner as to fully utilize all wood which will meet the specifications of the company to whom the Contractor is shipping the wood. Contractor agrees to merchandise the trees so that the pulpwood volume will be sorted and delivered to a pulpwood mill; canterwood volume will be sorted and delivered to a canterwood mill, small sawtimber volume will be sorted and delivered to a sawmill; and large sawtimber will be sorted and delivered to a sawmill.

**5) MANAGEMENT AND HARVESTING PRACTICES:** Contractor shall perform all work required under this Contract in accordance with the best forestry practices as described in the Arkansas Forestry Commission's Best Management Practices Guide and to the satisfaction of TNC. Contractor agrees to fully comply with and indemnify TNC for failure to comply with all applicable, federal, state, and local laws, rules and regulations including, without limitation, all environmental laws, rules or regulations. The foregoing indemnity shall survive the expiration or earlier termination of this Contract.

**6) PERMITS:** In the event any state or federal permits must be obtained to allow the timber harvesting operations contemplated by this Contract, Contractor shall secure such permits at its sole expense.

7) **EROSION:** Contractor shall take all necessary measures to prevent off-site sediment damage resulting from its timbering operation.

8) **STREAM CROSSINGS:** Contractor agrees that should the unanticipated crossing of streams, creeks, drains, or other environmentally sensitive areas be required for harvest and hauling, then Contractor shall notify TNC who shall approve or deny such operations.

9) **DEBRIS:** Contractor agrees to remove all tops, limbs and logging debris from all drainage ditches, roads, bridges, firebreaks, fields, streams, or other open areas. In the event trees, tops, or other logging debris fall into fields, streams, or other open areas, Contractor agrees to immediately remove such trees, tops, or other logging debris. Contractor shall maintain the above in as good condition as the above now are.

10) **SENSITIVE AREAS:** Existing Streamside Management Zones designated as “no cut” shall be protected from unnecessary injury.

11) **LIQUIDATED DAMAGES:** It is acknowledged that the actual damages to be suffered by The Nature Conservancy for breach of Contractor’s obligations under this Contract are difficult to accurately calculate. The parties agree to the following as reasonable damages (A) If Contractor’s actions (or the actions of Contractor’s employees or agents) result in damage to ecologically sensitive lands such as wetlands that result from Contractor willfully entering designated areas, Contractor shall pay The Nature Conservancy \$100.00 per square foot of such lands damaged by the actions of Contractor, its employees or agents; (B) Contractor shall prevent damage to any of The Nature Conservancy's trees and timber not subject to this Contract. If Contractor cuts or seriously damages such trees, Contractor shall pay The Nature Conservancy the following amounts for such tree as liquidated damages: (i) \$150.00 for each tree 11 inches and less diameter, (ii) \$400.00 for each tree 11.1 inches to 17 inches in diameter, (iii) \$500.00 for each tree 17.1 inches to 25 inches in diameter, and (iv) \$800.00 for each tree greater than 25 inches in diameter as determined by Kingwood Forestry Services, Inc. A tree shall be considered seriously damaged if bark is skinned from one half or more of its circumference.

12) **PROPERTY DAMAGE:** Contractor shall promptly repair any damage to the fences, gates, and other improvements on The Nature Conservancy’s lands resulting from Contractor’s operation.

13) **STUMP HEIGHT:** Contractor will cut the stumps as low as feasible, stump height not to exceed three inches where possible.

14) **PERMISSION:** Contractor will not grant any right, license, or permission to any of its agents or servants or other persons to hunt or fish on said property, and otherwise will conduct the operation in a professional manner, in accordance with good logging practices.

15) **TRASH:** The Contractor, his agents, or employees, will not leave trash, bottles, cans or other debris in the woods, on roads, on log ramps, or any other location on the harvesting area. Contractor shall remove any trash from these sites on a weekly basis.

16) **FIRES:** It is agreed that in case any fires are caused by the Contractor, or its agents or employees, the Contractor shall pay to The Nature Conservancy damages for any of the pulpwood and/or timber located on the impacted real estate.

17) **ACCESS:** The Nature Conservancy grants to Contractor all necessary rights of ingress and egress over the real estate of The Nature Conservancy to carry out the cutting by the Contractor of trees being sold pursuant to the terms of this Contract. However, Contractor agrees to use existing roads where possible and shall be responsible for routine scraping and motor grading to keep the roads passable. Contractor shall be responsible for and agrees that it shall maintain, except for grading, all existing private roadways, bridges, and culverts in a condition that will allow Contractor to safely haul the timber.

18) **ROADS:** Contractor hereby accepts roads in their present condition and accepts responsibility and expenses for any improvements in roads necessary to cut, haul, and remove said timber. During the timber harvesting operations, Contractor shall maintain all roads in a usable condition, suitable for the vehicular traffic to which the road is normally subjected, and shall not interfere with any hunting licensees' rights. The Contractor agrees to avoid hauling wood on the roads on TNC lands when excessive damage is caused by said hauling. TNC will be the sole judge as to what constitutes excessive damage.

19) **HAZARDOUS MATERIALS:** Contractor shall not allow on the property any leakage, spillage, sampling or release of any hazardous waste, materials, or substances. Contractor agrees to report spills of hazardous materials to TNC and to all appropriate Local, State, and Federal agencies and to contain and clean up all spills. Spilled chemicals and cleanup material shall be removed from The Nature Conservancy lands and disposed of in strict accordance with all applicable laws, rules and regulations. Contractor shall be solely responsible for and liable for chemical spills caused (either directly or indirectly) by contractor, its agents or employees, or arising out of or connected with the performance of this operation.

20) **OSHA:** Contractor will perform all operations in compliance with OSHA standards.

21) **RECEIVING MILL'S RULES OF OPERATION:** Contractor will abide by all rules of receiving mills. Contractor will also abide by practices and policies of the Sustainable Forest Initiative (SFI) system and maintain training levels required by SFI.

22) **RUTTING:** The Contractor agrees to avoid excessive rutting whenever possible. TNC and Kingwood Forestry Services, Inc. will be the sole judges as to what constitutes excessive rutting.

23) **SITE DISTURBANCE:** The trees are to be removed with minimal impact to the remaining herbaceous layer.