

Decision Notice & Finding of No Significant Impact

For

Smith Mountain Watershed Project



For Further Information Contact:
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Introduction

An interdisciplinary team (IDT) prepared an Environmental Assessment (EA) that addresses and analyzes the environmental effects of implementing the Proposed Action, also known as the Preferred Alternative (Alternative B), and the No Action Alternative, also known as the Continue Present Management Activities Alternative (Alternative A) and No Herbicides Alternative (Alternative C). The management activities proposed in the Preferred Alternative are summarized below and listed in detail in Attachment A to this document.

The USDA, Ouachita National Forest, Caddo-Womble Ranger District, proposes to implement management activities in the 25,597 acre project area known as Smith Mountain that primarily lies within the watershed identified as Collier Creek-Caddo River. These areas are also identified as portions of Management Areas 6, 9, 14, 17 and 20 in the Revised Land and Resource Management Plan (RLRMP 2005). Compartments 39, 40, 41, 42, 43, 52, 53, 54, 56, 57, 63 and 1636 fall completely or partially within the project area, which is located in T3S and T4S, R23W and 24W in Montgomery County, Arkansas. (See attached project map) Specifically, the Forest Service proposes the following activities*:

- Regeneration harvests – 711 acres
- Hand plant shortleaf pine seedlings – 572 acres
- Commercial thinning – 2,321 acres
- Timber Stand Improvement - 125 acres
- Precommercial thinning – up to 1,053 acres
- Wildlife Prescribed Burns – 1,435 acres
- Site Preparation Prescribed Burns- 555 Acres
- Fuel Reduction Prescribed Burns-7,535 acres
- Mechanical site preparation for artificial regeneration – 572 acres
- Fire line construction/Reconstruction – 18/13 miles
- Temporary road construction – 8 miles
- Pre-haul road maintenance – 14 miles
- Road Reconstruction – 8 miles
- Road Closures- 3 miles
- Changes to Motor Vehicle Use Designations
- Road Barriers – 34 each
- Wildlife Stand Improvements – within 1,585 acres
- Pond improvements/maintenance – 12 each
- Watershed improvements - .22 miles
- Fish passage barrier removal – 34 each
- Fish passage improvement (replace slab) – 1 each
- Wildlife opening construction – 3.5 acres
- Wildlife opening improvement – 16 acres
- Nest box installation – 54 each
- Nonnative invasive plant species treatment- 50 acres

* All numbers are approximate



Decision and Reasons for the Decision

Based on the analysis documented in the EA, it is my decision to implement the Preferred Alternative identified above for the Smith Mountain Watershed Resource Management Project. The Preferred Alternative is detailed in Attachment A of this document. My decision is based on a detailed study of the record that shows a thorough review of relevant scientific information, a consideration of responsible opposing views, and the acknowledgement of incomplete or unavailable information. See EA Chapter 3 (pg. 35) “Analysis Tools Used” and EA Chapter 6 (pg. 134) “Literature Cited”.

The proposed action improves the health and vigor of the Ouachita National Forest by reducing the existing overstocked timber stands, removing the offsite loblolly pine, reducing the threat of severe wildfires and improving early seral wildlife habitat while creating a more natural appearing mixed pine and hardwood stands to increase biological diversity. Current conditions of the project area do not meet the goals and objectives designed to meet an ecosystem management approach to for a healthy native system. These management decisions are based on experience, ecological concepts and scientific research. By implementing these activities we will provide for a diversity of plant and animal communities throughout the project area, provide early seral habitat in a well-distributed grass/forb or shrub/seedling stage, reduce fuel accumulation and produce a sustainable yield of wood products.

Several non-native invasive plant species have been identified throughout the project area. These species include but are not limited to Chinese Privet (*Ligustrum sinense*), Japanese Honeysuckle (*Lonicera japonica*), Mimosa (*Albizia julibrissin*), Autumn Olive (*Elaeagnus umbellata*), and Multiflora Rose (*Rosa multiflora*). If the control of non-native invasive plant species was not to occur within stream side management areas this could create a refuge for these species to grow and spread. Only aquatic labeled herbicides for terrestrial vegetation control would be permitted within riparian areas. When treating invasive plant species within riparian areas, only direct foliar application or cut and spray methods are to be utilized. Surveillance monitoring to ensure that herbicide label instructions are being followed would be conducted as part of the contract administration. Form R8-FS-2100-1, Herbicide Treatment and Evaluation Record, would be used to monitor work involving herbicides. Stream samples would also be taken to monitor for offsite movement.

The Preferred Alternative (Alternative B, the Proposed Action) was chosen over the No Action Alternative (Alternative A, the Continue Present Management Activities) because it meets the identified purpose and need for the Smith Mountain Resource Management Project area as stated in the EA. The No Action Alternative is a requirement of the National Environmental Policy Act (NEPA). The No Action Alternative would not improve forest health and vigor; reduce susceptibility to pine beetle outbreaks; provide a sustained yield of high-quality wood products; provide adequate grass-forb and seedling-sapling habitat conditions; provide a diversity of wildlife habitat conditions; reduce fuel accumulations; increase the amount of high quality forage and nesting habitat; provide for mast production; provide nest structures where suitable nest cavities do not occur; reduce open road density; develop, operate, and maintain the road system; eliminate non-native invasive species.



Smith Mountain Watershed Resource Management Project

The Preferred Alternative was chosen over Alternative C: No Herbicide Use, because it is expected to provide better site conditions for the establishment of pine regeneration and provide optimum freedom from competition for those seedlings. Past experience has shown that manual release usually results in profuse re-sprouting, thus requiring additional treatments and increased costs. The use of herbicides is critical to controlling the population and spread of non-native invasive species. Manual control measures and periodic prescribed burning are not effective management treatments for the control of non-native invasive species present within the project area. The No Herbicide Use Alternative is to comply with present Forest Policy.

The following table illustrates specifically how each Alternative would meet the desired objectives:

Objective (measure)	No Action	Alt B	Alt C
Improve the health and vigor of forest stands and improve stand quality (acres of timber stands treated resulting in reduced basal areas)	0	4,581	4,581
Contribute to the economic base of local communities by providing a sustained yield of high-quality wood products. (volume harvested – 100 cubic feet (ccf))	0	31,894	31,894
Provide grass-forb and seedling-sapling habitat conditions. (percent of suitable acres in early seral habitat)	0.12	10.2	10.2
Provide for a diversity of plant and animal communities; reduce fuel loads. (acres of ecosystem/wildlife prescribed burning)	0	8,960	8,960
Maintain or Improve open habitats to provide high quality forage and nesting habitat for wildlife. (acres of wildlife openings maintained/created)	0	19.5	19.5
Maintain or restore community diversity. (acres of woodland stand development/restoration)	0	808	808
Provide for mast production. (acres of overstory development(OSD))	0	434	434
Maintain or improve watershed health. (fish passage barriers restored: miles of watershed restoration)	0:0	34:0.22	34:0.22
Eliminate non-native, invasive species. (acres treated for invasive species eradication)	0	Across project area (50 acres for analysis)	0
Provide nest structures where suitable natural cavities do not occur. (number of bird boxes installed)	0	54	54
Reduce open road density. (miles of open road per square mile)	1.9	1.8	1.8
Develop, operate, and maintain the road system to meet the requirements of the proposed actions, protect the environment, and provide reasonable and safe access. (miles of road construction: road reconstruction: and pre-haul maintenance)	0	0: 8: 14	0: 8: 14



Climate Change

As greenhouse gas emissions and carbon cycling are integrated across the global atmosphere, it is not possible to determine the cumulative impact on global climate from emissions associated with insect or disease suppression treatments. It is not expected that the effects of single suppression treatment or multiple treatments can be specifically attributed the cumulative effects on global climate change.

Prescribed burning activities, although a carbon neutral process, would release CO₂, other green house gasses, and particulates into the atmosphere. However, implementing the proposed prescribed burns on an annual and/or bi-annual cycle would reduce fuel loading and could be expected to reduce fire intensity and severity as well (EA, pg. 124).

Indirectly, implementation of the preferred alternative would increase the overall health, vitality, and growth within the project area, reduce the susceptibility to insects and disease, as well as reduce fuel accumulations and lower the risk for a catastrophic wildfire from occurring in the project area. This would serve as a way to increase carbon storage within the project area and mitigate carbon accumulation in the atmosphere.

Implementation of the preferred alternative would increase the overall health, vitality, and growth within the project area, and reduce the susceptibility to insects and disease, as well as reduce fuel accumulations and lower the risk for a catastrophic wildfire from occurring in the project area. This would serve as a way to increase carbon storage within the project area and mitigate carbon accumulation in the atmosphere. No effects from climate change on the proposal are anticipated (EA, pg. 124)

Role of the Interdisciplinary Team and Public Involvement

The Caddo-Womble District IDT (interdisciplinary team) initiated internal scoping in April of 2010. External scoping was initiated on July 13, 2010. Scoping letters requesting comments on the proposal were mailed to over 100 agencies, groups, or individuals. The project was also published in the Ouachita National Forest Schedule of Proposed Actions. Three responses were received.

The IDT worked collaboratively to identify significant issues and develop objectives for the proposed project.

Issues Identified

One significant issue was identified by the IDT during the planning process:

Herbicide Use: Forest policy requires analysis of alternatives to herbicide use. Herbicide, insecticide and fungicide use will be considered a significant issue for this reason, and the



environmental consequences of their use are disclosed throughout Chapter 3. The No Action Alternative serves as the no herbicide, insecticide and/or fungicide use alternative.

Technical Requirements

The Revised Land and Resource Management Plan (RLRMP) for the Ouachita National Forest provides overall technical requirements. The IDT reviewed the RLRMP Forest-wide Design Criteria, Management Area-specific Design Criteria, and specialist reports, then identified the following project-area requirements:

- Even-aged regeneration treatments that exceed or create an opening (as defined by FR005) that would exceed the recommended maximum area of regeneration (RLRMP, p.81, table 3.2) would require Forest Supervisor approval. The following stands may apply: compartment 56, stands 18 and 27; compartment 57, stand 8 and 12; and compartment 63, stand 7.
- Commercial thinning operations that deviate from the guidelines (RLRMP, p.84, table 3.6) are subject to approval by the responsible official. (RLRMP, FI005, p.84) The following may apply: compartment 52, stand 8; compartment 53, stands 12, 22, 23, 49, 59; compartment 54, stands 3, 4, 5, 10, 48, 57, compartment 55, stands 18 and 20; compartment 56, stand 10; compartment 63, stands 1 and 8; and compartment 1636, stands 5 and 9.
- During prescribed burning activities, sign travel ways as needed notifying the public there may be smoke along the road. Position flaggers or warning signs along the travel ways during active flaming.
- Inform the public of potential burn days, times, information contacts, and suggested alternatives for those concerned with smoke.
- Notify local, county and state law enforcement that burning will take place.
- Resource management activities such as timber harvests, timber stand improvement, prescribed burns and wildlife habitat improvements will be conducted in a manner that promotes Scenic Integrity Objectives (SIO). (RLRMP, RS002, p.90)
- Soils would be managed to maintain a minimum of 85 percent of a treatment area in a condition of acceptable soil productivity following land management activities. (RLRMP, SW003, p.74)
- Allow heavy equipment operations on soils with a severe compaction hazard rating only during the months of July through November. Operations during December through June are allowed with the use of methods or equipment that does not cause excessive soil compaction. This does not apply to roads, primary skid trails, or log decks. (RLRMP, SW001, p.74)



- Allow heavy equipment operations on soils with a high compaction hazard rating only during the months of April through November. Operations during December through March are allowed with the use of methods or equipment that does not cause excessive soil compaction. This does not apply to roads, primary skid trails, or log decks. (RLRMP, SW002, p.74)
- Erosion control treatments of log decks, temporary roads, and primary skid trails will include installing waterbars and seeding. (Smith Mountain USLE report)
- Bulk density would not increase more than 15 percent over the undisturbed level in the upper eight inches of soil. (RLRMP, SW003, p.74)
- Soil organic matter will remain at least 85 percent of the natural or undisturbed total in the upper six inches of soil. (RLRMP, SW003, p.74)
- Soil loss from management actions would not exceed the estimated Forested T-factor for each soil or soil map unit, based on the cumulative time period between soil disturbing management actions. (RLRMP, SW003, p.74)
- Soil puddling (tire track rutting) will not exceed six inches deep. (Smith Mountain USLE report)
- Soil displacement will not exceed two inches or one-half the humus-enriched “A” horizon, whichever is less, over a surface area greater than 100 square feet that is more than ten feet wide. (RLRMP, SW003, p.74)

Alternatives Considered

Alternative A: Deferred Harvest (No Action)

In this alternative, the management activities described in the proposed action (those listed in Alternative B ‘description of treatments’) would be deferred until a later entry. However, ongoing Forest Service permitted and approved activities would continue in the project area:

- Road maintenance – normal and emergency road maintenance would continue on all existing roads.
- Power line right of way (ROW) maintenance would continue on existing ROW’s.
- Fire suppression – natural caused fires may be suppressed unless appropriate conditions allow for it to be used as a management tool to accomplish resource needs. Human caused fires by accident or intention (arson) would be suppressed.
- Off road vehicle use – ORV use of the area would continue under the Travel Management Plan for the Ouachita National Forest.
- Camping – camping would continue under the current rules of the Ouachita National Forest. Special restrictions would apply during times of fire threat.
- Hunting and Fishing – game hunting and fishing would continue under the rules of the Arkansas Game and Fish Commission.



Smith Mountain Watershed Resource Management Project

- Firewood cutting – under the permitting rules of the Ouachita National Forest, the public would continue to harvest firewood.
- Rock gathering – under the permitting rules of the Ouachita National Forest, the public would continue to collect rock for personal use.
- Existing quartz, shale and gravel mining would continue in approved locations.
- Routine maintenance of facilities and administrative sites.
- Prescribed burning and other activities as authorized under Sharptop Environmental Assessment.

Alternative B: Smith Mountain Watershed Resource Management Project (Preferred

Alternative) The No Action Alternative is a requirement of the National Environmental Policy Act (NEPA). The No Action Alternative would not: improve forest health and vigor; reduce susceptibility to pine beetle outbreaks; provide a sustained yield of high-quality wood products; provide adequate grass-forb and seedling-sapling habitat conditions; provide a diversity of wildlife habitat conditions; reduce fuel accumulations; increase the amount of high quality forage and nesting habitat; provide for mast production; restore glade structure; provide nest structures where suitable nest cavities do not occur; reduce open road density; develop, operate, and maintain the road system; eliminate non-native invasive species.

- Regeneration harvests – 711 acres
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Alternative C: No Herbicide Use



This alternative would be the same as those listed under Alternative B above with the exception of no herbicides would be used to meet desired conditions. This alternative addresses the Forest direction requiring analysis of alternatives to herbicide use. Herbicide application for site preparation, pre-commercial thinning/release, and non-native invasive species control would not occur. These activities would be accomplished manually with chainsaws and/or other mechanical means.

Findings Under the National Forest Management Act –Revised Forest Plan Consistency

The Preferred Alternative, which alters vegetation, complies with the requirements of the National Forest Management Act (NFMA). Under 16 U.S.C. 1604 (g)(3)(e). The Responsible Official may authorize site-specific projects and activities to harvest timber on National Forest System (NFS) lands only where:

1. Soil, Slope, or other watershed conditions will not be irreversibly damaged.
2. Streams, stream banks, shorelines, lakes, wetlands, and other bodies of water are protected from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment where harvests are likely to seriously and adversely affect water conditions of fish habitat.

Finding of No Significant Impact (FONSI)

Based on the nature and extent of the area affected by the Preferred Alternative, I have determined that the implementation of this project, with the associated technical requirements, is not a major federal action either individually or cumulatively, and will not significantly affect the quality of the human environment. Therefore an environmental impact statement is not required. This determination is based on the following factors (40 CFR 1508.27):

1. Both beneficial and adverse effects have been considered and this action will not have a significant effect on the quality of the human environment (EA, pages 15-128).
2. The degree to which public health and safety may be affected is minimal. This includes both short and long term health and safety. Prescribed burning, insecticide, fungicide and herbicide applications will be conducted under the design criteria documented in the Revised Forest Plan (EA, pages 117-121).
3. The action will not adversely affect any unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (EA, pages 17-18).
4. Based on public involvement and the environmental analyses conducted, the effects on the quality of the human environment from this action are not likely to be highly controversial (EA, pages pg. 21).



5. The effects on the quality of the human environment from this action are not highly uncertain nor do they involve unique or unknown risks. The actions have been implemented before on similar lands and under similar circumstances (EA, pages 115-128).
6. The actions in this decision will not establish a precedent for future actions with significant effects nor does this represent a decision in principle about a future consideration.
7. The cumulative effects of the Preferred Alternative have been analyzed with consideration for past and foreseeable future activities on adjacent public and private lands, and no significant cumulative effects would result from implementation (EA, pages 15-218).
8. The actions will not affect any sites listed or eligible for listing in the National Register of Historic places, nor will they cause loss or destruction of significant scientific, cultural, or historical resources. Based on the ratified Programmatic Agreement between the National Forests of Arkansas, the Arkansas Historic Preservation Officer, and Native American Tribes, many activities contained in the Preferred Alternative have no potential to impact heritage resources and are “Exempt Undertakings” (Stipulations V.B.1-26). These include but are not limited to maintenance of buildings less than 50 years old; herbicide and pesticide application; routine road and heliport maintenance; revegetation, paving, and cut and leave treatments. Other activities hold little-to-no potential to impact heritage resources and are categorically excluded from routine consultation (Stipulations V.C.1-5) including but not limited to prescribed burns in areas previously burned; actions in existing road right-of-ways; and work in areas previously surveyed for archeological sites. Consultation on such activities occurs internally and is formally documented. Other proposed actions requiring further review and consultation, however, include new fire line construction, commercial timber harvests in the seed orchard, and all new construction projects that are not in previously surveyed areas.
9. The actions are not likely to adversely affect endangered or threatened plant or animal species or critical habitat (EA, pages 97-116). The actions are in compliance with the Endangered Species Act.
10. None of the actions threaten to lead to a violation of Federal, State, or local law or requirements imposed for the protection of the environment. This will be ensured by implementing the Preferred Alternative in a manner consistent with the design criteria and management requirements established in the Revised Forest Plan. For water quality, State approved Best Management Practices (BMP) will be used. These BMPs are from the State water quality management plan, which has the goal of producing water that meets state water quality standards. The project will be monitored to ensure that BMPs are implemented, and treatments comply with the provisions of the Clean Water Act. If the implementation of BMPs on a specific site results in effects significantly greater than previously anticipated, due to unforeseen site factors or events, appropriate corrective measures will be taken (EA, pages 47-58).



Implementation and Appeal Rights

This decision is subject appeal pursuant to 36 CFR 215.11(a). A written appeal, including attachments, must be postmarked or received within 45 days after the date this notice is published in the newspaper of record. The appeal shall be sent to the Ouachita National Forest, ATTN: Appeals Deciding Officer, P.O. Box 1270, 100 Reserve Street, Federal Building, 2nd Floor, Hot Springs, AR 71902. Appeals may be faxed to (501) 321-5353. Hand delivered appeals must be received within normal business hours of 8:00 am to 4:30 pm. Appeals may also be mailed electronically in a common digital format to appeals-southern-ouachita@fs.fed.us. Only those individuals or organizations who submitted comments or otherwise expressed an interest during the notice and comment period may appeal.

Appeals must meet content requirements of 36 CFR 215.14. For further information on this decision, contact the District Ranger, Caddo-Womble Ranger District, 1523 Highway 270 East, Mount Ida, AR 71957, Phone: (870) 867-2101. If no appeal is received, implementation of this decision may occur on, but not before, five business days from the close of the appeal filing period. If an appeal is received, implementation may not occur for 15 business days following the date of the appeal decision. (36 CFR 215.9)

Responsible Official:

Gloria Chrismer

15 November, 2011

GLORIA CHRISMER
District Ranger

Date

**ATTACHMENT A*****Present Activities to be Continued:***

- Road maintenance – normal and emergency road maintenance would continue on all existing roads.
- Power line right of way (ROW) maintenance would continue on existing ROW's.
- Fire suppression – natural caused fires may be suppressed unless appropriate conditions allow for it to be used as a management tool to accomplish resource needs. Human caused fires by accident or intention (arson) would be suppressed.
- Off road vehicle use – ORV use of the area would continue under the Travel Management Plan for the Ouachita National Forest.
- Camping – camping would continue under the current rules of the Ouachita National Forest. Special restrictions would apply during times of fire threat.
- Hunting and Fishing – game hunting and fishing would continue under the rules of the Arkansas Game and Fish Commission.
- Firewood cutting – under the permitting rules of the Ouachita National Forest, the public would continue to harvest firewood.
- Rock gathering – under the permitting rules of the Ouachita National Forest, the public would continue to collect rock for personal use.
- Existing quartz, shale and gravel mining would continue in approved locations.
- Routine maintenance of facilities and administrative sites.
- Prescribed burning and other activities as authorized under Sharptop Environmental Assessment.

Proposed Activities by Compartment and Stand

Activity	Compartment	Stand	Acres	Miles	Number
Wildlife Opening (WLO) Rehabilitation	39	11	0.9		
WLO Rehabilitation	39	11	2.2		
WLO Rehabilitation	39	11	2		
WLO Rehabilitation	39	11	1.1		
WLO Rehabilitation	39	11	1.7		
WLO New Construction	56	1	0.7		
WLO New Construction	56	8	1.1		
WLO New Construction	56	17	0.6		
WLO New Construction	1636	2	0.5		
WLO New Construction	1636	2	0.6		
Watershed Restoration	55	3, 7		0.2	
Linear WLO	42	24, 14, 11, 5		0.8	
Linear WLO	43	8, 31		0.5	
Linear WLO	53	18, 19, 56		0.4	
Pond Improvement	56	1			1
Pond Improvement	1636	3			1
Pond Improvement	55	5			1



Smith Mountain Watershed Resource Management Project

Pond Improvement	55	19			1
Pond Improvement	55	33			1
Pond Improvement	54	49			1
Pond Improvement	56	1			1
Pond Improvement	56	7			1
Pond Improvement	56	11			1
Pond Improvement	56	8			1
Pond Improvement	53	15			1
Pond Improvement	53	12			1
Nest Boxes	63	2			7
Nest Boxes	56	18			7
Nest Boxes	53	32			7
Nest Boxes	40	14			7
Nest Boxes	54	12			7
Nest Boxes	55	10			7
Nest Boxes	1636	2			7
Nest Boxes	43	28			5
Invasive Plant Treatment	1650	10			1
Fish Passage	52	22			1
Prescribe Burn Site Prep	1636	2	21		
Prescribe Burn Site Prep	40	14	22		
Prescribe Burn Site Prep	53	55	58		
Prescribe Burn Site Prep	54	11	24		
Prescribe Burn Site Prep	54	12	27		
Prescribe Burn Site Prep	53	31	19		
Prescribe Burn Site Prep	53	32	21		
Prescribe Burn Site Prep	55	10	20		
Prescribe Burn Site Prep	56	18	50		
Prescribe Burn Site Prep	56	27	43		
Prescribe Burn Site Prep	57	8, 12	98		
Prescribe Burn Site Prep	63	7	87		
Prescribe Burn Site Prep	63	2	66		

Modified Seed Tree Regeneration (ST) – A timber harvest cut designed to obtain natural regeneration from seed trees left for that purpose. Approximately 15-25 sq. ft. of pine, 15-25 sq. ft. of hardwood basal area per acre is retained in the overstory. Seed trees are retained indefinitely. This cut would establish a two-aged stand. This treatment differs from a traditional seed tree by retaining a mix of hardwoods and pines in the overstory after regeneration. Hardwood trees felled in these areas may be utilized for public firewood or commercial sale. (308 acres proposed)



Overstory Removal (OSR) – A timber harvest cut designed to remove the overstory of a stand to enhance the development of the existing pine regeneration. These are old, uneven aged stands that have advanced regeneration. The same basal area is desired as the modified seed tree regeneration (approx 5 sq ft for hardwoods and 10-20 sq. ft for pine); however the seed trees have already propagated. This cut would allow sunlight to reach the forest floor and promote growth. This allows for a more even aged management approach to minimize the time before re-entry. After harvesting, the areas will be released and/or pre-commercial thinned using chainsaws and/or herbicides. (139 acres proposed)

Shortleaf Pine Restoration (SLR) – A timber harvest where loblolly pine stands (typically those plantations acquired from Weyerhaeuser Company) are removed (clearcut) in upland areas that are “off site” for this species of pine. “Off site” is the term used to indicate the location of which a species is not traditionally native. After harvesting, the site will be prepped using a roller chopper, prescribed fire and/or herbicide application to control the competing vegetation. Afterwards, the area will be ripped to prepare a planting bed and followed with the planting of genetically improved shortleaf pine. After establishment, the areas will be released and/or pre-commercial thinned using chainsaws and/or herbicides. (241 acres proposed)

Modified Shelterwood (SW) – A timber harvest method of regenerating an even-aged stand in which most of the trees are removed leaving a new age class to develop beneath the partially shaded microenvironment provided by the residual trees. For this project, only one stand will undergo this harvest method. The residual basal area will be 35 to maintain scenic integrity. After new stand establishment, overstory may be reduced to seed tree density. (23 acres proposed)

Pre-commercial Thinning /Release (PCT) – Regenerated pine stands between 5 and 10 years of age would be thinned to a maximum of 700 trees per acre, averaging a 10 x 10 foot spacing, using hand tools or herbicide application as described on the previous page. Leave trees would be free of all competing vegetation such as vines and woody stems to ensure survival, reduced susceptibility to insects and disease, and increase growth of the residual stand. Poorly formed trees would also be removed. The hardwood component would be retained at 10 to 30% of the total trees per acre. (481 acres) Additionally, the previously listed regeneration harvest acres may have PCT conducted at a later date to improve stand quality. (572 acres)

Commercial Thinning (CT) – Stands are normally thinned to a pine residual basal area of 60-75 square feet per acre based on the average stand diameter. However, for mechanical harvesting equipment to operate within these stands and to reduce the amount of damage to the remaining stand, a minimum spacing between trees of 20 feet is required (127 tress/acre). Stands with average diameters less than 10 inches will be thinned below the basal area guides listed in Table 3.6 Thinning Guide by Community Group (Revised Land and Resource Management Plan). Pursuant to Revised Forest Plan Design Criteria FI005, deviations from these guides are allowable if site-specific conditions warrant, subject to approval by the project Responsible Official. Stands with an average diameter



of six inches would be thinned to a basal area of 30 square feet. Damaged, diseased, suppressed, and poorly formed trees would be targeted first for removal. Trees harvested will be sold to support the local economy (2,321 acres proposed). One stand totaling 105 acres will be followed by a PCT.

Timber Stand Improvement (TSI) – An intermediate treatment designed to improve the composition, structure, condition, health and growth of existing even aged stands. Two stands are Shortleaf Pine dominated with a large hardwood component. Competing hardwood poles would be removed to improve pine stand vigor. A third stand is Oak-Hickory dominated with a Shortleaf Pine component. This hardwood stand is young and will be improved by coppice management (reducing hardwood sprouts) and reduction of competitive pines. These areas may be made available for firewood or commercial sale. (125 acres proposed)

Woodland Stand Restoration (WSR) – Work would include removing undesirable tree species, such as sweetgum, elm, cedar, and maple in the understory, midstory, and overstory while retaining and developing hard and soft mast producing species such as white oak, red oak, hickory, and black cherry across the area. Stocking levels are maintained below forest guidelines (approximately 50-60 square feet of basal area per acre) for fully stocked stands. Stands are open, park like with emphasis on maintaining a strong herbaceous component. This treatment will also be followed the periodic use of fire, herbicide and/or manual methods to establish and maintain a grass/forb understory to be determined when the understory has more than 150 seedlings per acre over half the stand or woody vegetation (briars, vines and/or shrubs) which occupy more than half of the understory. Trees felled in these areas may be available for public firewood and/or commercial sale. (within 166 acres)

Woodland Stand Development (WSD) – Management treatment is to reduce the stocking levels to a more open canopy, generally a 25 to 60 percent crown closure. These stands are pine dominated, fully stocked and would be thinned to a level as recommended by RLRMP for woodland habitat (Table 3.6, pg. 84). Individual stand residual basal area will range between 30-60. These areas may be harvested by commercial thinning of pine and/or hardwood and are include in the above mentioned acres under CT. This treatment will also be followed the periodic use of fire, herbicide and/or manual methods to establish and maintain a grass/forb understory to be determined when the understory has more than 150 seedlings per acre or woody vegetation (briars, vines and/or shrubs) which occupy more than half of the understory. Area may also be made available for public and/or commercial firewood. (642 acres included in, not in addition to, the commercial thinning acreages.

Midstory Reduction (MSR) – By using a combination of fire, chainsaws and/or herbicides, suppressed and intermediate trees would be removed. Reducing the midstory will allow more light to filter through the forest canopy to spur the growth of understory vegetation. These areas may be available for public firewood and/or commercial (within 343 acres)



Overstory Development (OSD): Overstory development involves the felling of selected dominant and co-dominant trees and some of the midstory trees in a hardwood stand. Most soft mast producing species are retained through the process. Trees felled would be utilized as micro-habitats by benefiting forest floor species. This would be achieved by using chainsaws and/or herbicides to fall intermediate and co-dominant trees while retaining oaks and hickories in addition to the soft mast producers. OSD areas may be made available for firewood or commercial sale. (within 434 acres)

Chemical Site Preparation – After pine regeneration harvest, hardwoods would be reduced to 20% of the residual basal area of pine using herbicide application in the form of foliar spray, stem injection, and/or chainsaw fell and cut surface spray. A minimum of 5 square feet per acre of basal area of overstory hardwoods would be retained where available. In modified seed tree harvest areas one-half acre clumps of hardwoods per 20 acres of harvest area would be retained in order to create den trees. (572 acres proposed= ST+SLR+SW)

Mechanical Site Prep - Competing vegetation may be removed manually with chainsaws, heavy equipment and/or ripping. This will be used in lieu of or in addition to other site prep methods to ensure areas are properly prepared for future seed/seedlings. (241 acres proposed=SLR)

Prescribed Burn Site Preparation – After chemical or mechanical site preparation activities have been conducted, prescribed burning may be employed in the even-aged regeneration harvest areas. This treatment would further reduce brush, downed-woody fuels, and duff and litter accumulations that may impede regeneration establishment. A detailed description of burning is provided later in this document under ecosystem prescribed burning. (572 acres proposed= ST+SLR+SW)

Hand Plant Shortleaf Pine – Within the SLR's (241 acres), hand planting of shortleaf pine seedlings will be 8 X 10 spacing. If adequate amount of pine regeneration (150 trees per acre) is not established within 5 years in natural regenerated areas (ST & SW), pine seedlings would be planted to meet target stocking levels. (241 and 331 acres proposed, respectively)

Wildlife Openings – Activities would include brush hogging, disking, fertilizing, and seeding existing wildlife openings with native warm and cool season grasses and forbs. Five permanent early seral openings would be created, totaling 3.5 acres. Sixteen acres of utility ROW's and existing roads (C42 and C43) would be maintained as wildlife openings.

Pond Maintenance – Activities would include repairing spillways, installing signs and clearing vegetation. Traditional methods of controlling nuisance vegetation within and surrounding ponds have proven unsuccessful or impracticable. With Forest Supervisor approval, the use of aquatic labeled herbicides would be used to control non native or invasive aquatic vegetation. There are 12 ponds within project area that would be improved/maintained.



Fish Passage Reconstruction – Activities would include placing large rocks and pouring concrete ramps on the outfall side of culverts and replacing a concrete slab with a concrete box culvert or other suitable structure on Collier Creek crossing. Additionally, 34 fish passage barriers would be corrected.

Watershed Restoration – Roads, trails, gravel pits, and areas with active erosion would be stabilized. Disturbed soil areas would be revegetated with native species, waterbarred and fertilized. Identified dump sites would be cleaned up and rehabilitated by disking, waterbarring, seeding, liming, mulching and fertilizing. (.22 miles proposed)

Nest Box Installation – Where suitable natural cavities do not occur, nesting structures would be installed across the project area to provide habitat for cavity-nesting animals. Fifty-four (54) nesting boxes would be installed.

Invasive/Noxious Plant Species Control – Identified invasive species (i.e. Fescue, Japanese Honeysuckle, Chinese Privet, Multi-flora rose) would be eliminated from the road surface, ditches, and forest floor throughout the project area using various techniques. These techniques would include a combination of herbicide application, prescribed burning, light disking, and seeding with native warm season grasses.

Ecosystem Prescribed Burning- This activity would be implemented during the dormant and growing seasons (described below). Burn blocks would be burned as conditions are appropriate (approximately 3-7 year intervals). In order to minimize fireline construction, some of the burn blocks extend beyond the project area to natural or existing man-made fuel breaks such as streams and roads.

Growing Season Prescribed Burning – These burns are implemented during the spring and summer months between leaf emergence in late March and April and leaf fall in late October and November. The burns involve application of controlled, moderate to high intensity fire to control competing vegetation (hardwoods), prepare sites for seeding, and perpetuate fire dependent species (shortleaf pine – bluestem). Vegetation 3 inches and less in diameter at the ground level is targeted for eradication. This will result in less competition for pine seedlings and other desirable fire dependant species, while creating an open understory to stimulate growth of native grasses and forbs and increasing foraging for browsing animals.

Dormant Season Prescribed Burning – These burns are implemented after leaf fall and before leaf emergence during late fall and winter months. Low intensity fire is employed to reduce accumulated fuels, stimulate growth of native vegetation, and improve wildlife habitat. Approximately 80 percent of the area is burned, with expected fuel reduction of approximately 30 percent. Some duff would be retained for soil protection. Vegetation 1¼ inches in dbh and less in diameter is targeted for reduction to create an open understory, stimulating growth of native grasses and forbs, and increasing foraging for browsing animals.



Fireline Construction – A line up to 10-feet wide would be bladed to bare minimum soil using a bulldozer, removing ground vegetation and small trees. The fireline would meander around large trees and they would be left in place. After the burns are completed, these firelines would be waterbarred and seeded with native grasses and forbs where needed to restore vegetative cover to the exposed soil. Approximately 18 miles of new fire line construction may necessary for prescribed burning.

Fireline Maintenance – Up to a 10-foot wide swath of brush and ground vegetation would be removed from existing firelines by blading using a bulldozer. After the burns are completed, these firelines would be waterbarred and seeded with native grasses and forbs where needed to restore vegetative cover to the exposed soil. Approximately 13 miles of existing fire line requires maintenance.

Temporary Road Construction – Approximately 8 miles of temporary road construction is necessary to access harvest areas. After harvest, these roads would be closed with earthen berms or gates, limed, fertilized, seeded and planted with native warm and cool season grasses and nonpersistent cultivars and utilized as temporary wildlife openings.

System Road Reconstruction – Approximately 8 miles of system road reconstruction would be required to support management activities, reduce erosion and sedimentation, and ensure safe travel on the existing road network. Activities could include any road improvements or realignment that results in an increase of an existing road's traffic service level, expands its capacity, changes its original design function, or relocates an existing road or portions of an existing road and treatment of the old roadway.

System Road Pre-haul Maintenance – Prehaul maintenance would be required on approximately 14 miles of road prior to timber hauling. Activities include brush removal, spot gravel, surface protection, blading, culvert replacement and drainage reconditioning as necessary to restore the road to its original design function.

Install Road Closure Devices – Metal gates or earthen berms would be installed to provide road closure. The closure devices would be installed on roads identified for closure or those built as temporary access for timber harvest.

Road Closures- In order to reduce soil erosion, sedimentation, illegal activities and to comply with the Travel Management Rule as outlined by the Motor Vehicle Use Management(MVUM) maps, approximately 3 miles of roads may be closed with gates or earthen berms as funds are available. See Appendix D for complete list of changes due to Motor Vehicle Use Management designation changes.

Road Decommissioning/Obliteration – Due to active erosion, closed or unauthorized roads may be stabilized and restored to a more natural state as funds become available.

Rock Resources – Permits would be offered to the public for collection of rocks by private individuals within existing mine areas or road construction and reconstruction corridors. That is, rocks may be collected within areas of disturbance associated with existing mine areas or road construction and reconstruction.