

**DECISION NOTICE
and
FINDING OF NO SIGNIFICANT IMPACT
for the
ETOWAH RIVER WATERSHED PROJECT**

**USDA Forest Service
Blue Ridge Ranger District, Chattahoochee National Forest
Lumpkin County, Georgia**

Decision and Rationale for the Decision

Decision

Based upon my review of the alternatives, I have decided to select **Alternative 3**, of the Etowah River Watershed Project (EA). It will move the area towards the desired condition in the Forest Plan by restoring forest communities in decline and begin restoring forest communities to historic composition that were converted by previous land uses.

Background

Implementation will restore approximately 108 acres of table mountain pine; restore approximately 54 acres of oak/oak-pine; and restore approximately 2 acres of canebrake. The project will also provide for forest health through first time thinnings on approximately 405 acres of pine plantations by reducing southern pine beetle infestation chances; enhance wildlife habitat through the creation of approximately 83 acres of early successional forest habitat; improve water quality conditions through road maintenance activities along three system roads and the closing of one eroding road; and enhance stream habitat conditions for trout and other aquatic species through the maintenance of existing and construction of new improvement structures. The best available science was utilized in the analysis of this and other considered alternatives.

Rationale for the Decision

Based on the analysis presented in the Environmental Assessment for the Etowah River Watershed Project, I have decided to select Alternative 3 because it best meets the purpose and need and the Forest-wide Goals discussed above (EA pg. 6). The following is the rationale for my decision

No action (Alternative 1)

I eliminated the No-Action Alternative (Alternative 1) since it failed to meet the purpose and need established for the project in several ways (EA pg. 6). First, the desired

restoration of table mountain pine, oak/oak-pine, and canebrake communities will not occur. Secondly, the forest health objectives in the first time thinning stands will not be met because the stands will still exceed the fully stocked level. Thirdly, the goal of creating early successional forested habitat would not be reached, nor would the improvement of aquatic habitats happen (EA pg. 48). Lastly, the opportunity to improve road conditions and decrease soil erosion would be missed (EA pgs. 38-39 & 102).

Proposed Action (Alternative 2)

I eliminated the Proposed Action (Alternative 2) because it didn't allow for further treatments in the oak/oak-pine restoration areas, which the ID team decided would most likely be necessary to promote oak and shortleaf pine regeneration (EA pg. 14). Similarly, it didn't specify possible future treatments with chainsaws or multiple prescribed burns in the table mountain pine restoration areas (EA pg. 14). Another reason for eliminating Alternative 2 is that it included treatment in the steep slopes along Two Run Creek that have the potential to increase sedimentation in Two Run Creek (EA pg. 14). Further reason for eliminating this alternative was that it didn't allow for potential maintenance of the early successional forest habitat by DNR (EA pg. 16).

Alternative 4

I eliminated Alternative 4 because it removes the use of prescribed burning which is a useful and cost efficient tool. Prescribed burning will be necessary to prepare a seedbed for table mountain pine restoration and for shortleaf pine in the oak/oak-pine restoration area (Ea pgs. 15 & 50-51).

Alternative 3

I chose Alternative 3 because it meets the purpose and need of the Forest-wide Goals and Objectives listed above (EA pg. 6). This alternative meets the objective of restoring Table Mt. pine and allows for further treatments in the restoration area to ensure regeneration of Table Mt. pine (EA pg. 15-17 & 50-51). These further treatments are not found in Alternatives 1, 2 and 4. This alternative meets the objective of restoring oak/oak-pine communities and allows for further treatments to ensure regeneration of oak and shortleaf pine in the restoration area (EA pg. 15-17 & 50-51). These further treatments are not found in Alternatives 1, 2 and 4. Alternative 3 meets the objective of restoring Canebrake communities (EA pg. 49) and the goal of thinning overstocked pine stands to reduce the threat of Southern Pine Beetle infestations (EA pg. 15-17 & 48-50). The alternative meets the goals of restoring soil productivity and reducing erosion to improve water quality. Finally, Alternative 3 meets the goal of creating aquatic habitat enhancements for desired aquatic species (EA pg. 73-74).

Alternatives Eliminated from Detailed Study

The interdisciplinary team and the responsible official considered one other alternative. This proposal was to implement all of Alternative 3 with the exception of stands 19 & 21 on Two Run Creek Road in compartment 566, which would be dropped from treatment all together. The ID team explored this alternative and decided that issues related to these

2 stands were address sufficiently by the boundary modifications in Alternative 3 and an additional alternative was not necessary.

Public Involvement

A detailed letter about the projects was sent to 106 individuals, agencies, news organizations and public organizations in April of 2007. The proposal also appeared in the quarterly Schedule of Proposed Actions for the Chattahoochee-Oconee National Forests.

Communication between the Blue Ridge Ranger District and the public occurred many times. Consultation with Georgia DNR occurred in the pre-planning process to aid in selecting the wildlife openings that would have early successional forest habitat creation around them. A field trip to Two Run Creek was made with two members of Georgia ForestWatch on Oct. 9, 2007. Phone calls were made to and from Georgia ForestWatch to discuss different parts of the project. Emails were exchanged with the Upper Etowah River Alliance and one member of the public concerning questions about project particulars and the NEPA process. Please see the project file for further details.

A Draft Environmental Assessment and letter indicating the preferred Alternative (Alternative 3) was sent to interested publics on September 14, 2007 and to those who participated during the analysis process. A Request for Comments was also posted in *The North Georgia News* newspaper on September 19, 2007 and *The News Observer* on September 25, 2007 and *The Dahlonega Nugget* on September 26, 2007. The EA was available for public review at the Blue Ridge Ranger District office located in Blairsville, GA, and it was posted on the Forest Service website at www.fs.fed.us/conf/. Two comment letters were received during the comment period in which a consensus of support was given.

Finding of No Significant Impact

Based on the Environmental Assessment, I have determined that Alternative 3 with mitigating measures and management requirements applied is not a major federal action, either individually or cumulatively and will not significantly affect the quality of the human environment. This determination is based upon the following factors found at 40 CFR 1508.27 (b).

1. Both beneficial and adverse effects have been considered. The proposed actions will not have a significant effect on the quality of human environment.
2. The actions will have minimal effects on the public health and safety (EA pg. 104).
3. The actions will not have any detrimental effects on any unique characteristics of the geographic area such as park lands, historical and cultural resources, prime farm

lands, wetlands, floodplains, wild and scenic rivers, or ecologically critical areas. It may have positive effects in maintaining ecologically or culturally important areas in their current condition (EA Chapter 3).

4. Based on public involvement and analysis, the effects on the quality of the physical environment are not highly controversial (EA pp 14-34).

5. The actions do not involve highly uncertain, unique, or unknown environmental risks to the human environment (EA pp. 104-107).

6. The actions will not set a precedent for future actions with significant effects. They not do represent a decision in principle about a future proposal.

7. The cumulative effects of the proposed actions have been analyzed and no significant effects are anticipated. Each environmental component in Chapter 3 of the EA includes consideration of cumulative effects. The context and intensity of cumulative impacts over space and time will not be significant (EA pp. 26-31, 38-43, 48-53, 54-76, 78-79, 82-85, 87-91, 95-99, 102-107).

8. This action does not adversely affect cultural resources listed or eligible for listing in the National Register of Historic Places and will not cause loss or destruction of significant scientific, cultural, or historical resources (EA pp. 100-101).

9. Implementing this decision will not adversely affect threatened or endangered species, or result in loss of any other species' viability, or create significant trends toward Federal listing of the species under the Endangered Species Act. This determination is based on the site-specific surveys, the Biological Evaluation for the Etowah River Watershed Project, and concurrence from the U.S. Fish and Wildlife Service under Section 7(a) (2) of the Endangered Species Act.

10. This action does not threaten to lead to violation of federal, state, or local laws imposed for the protection of the environment. This will be ensured by carrying out the proposed action in a way that is consistent with the standards, general direction, and management requirements established in the Forest Plan (Plan 3-171)and this Decision Notice (EA pg. 26) (DN pgs. 7-9).

Findings Required by Other Laws and Regulations

Alternative 3 is consistent with the Forest Plan. It is consistent with the Forest Goals and Objectives listed in the purpose and need of the project. The project was designed to conform to land and resource management plan standards and incorporates them in the implementation.

The modified seedtree method of regenerating Table Mountain pine, including additional treatments using mechanical cutting and prescribed burning, is appropriate to meet the

goals and objectives of the Forest Plan (EA, pgs. 48 & 51), including Objective 9.F-03 (DN, pg. 2). All seedtree areas will be adequately restocked within five years of these treatments

Administrative Review

This decision is subject to appeal, pursuant to the USFS regulations 36 CFR 215.11 by those who provided comments or otherwise expressed interest in this particular proposal during the 30-day public comment period. Written Notice of Appeal of this decision must be fully consistent with 36 CFR 215.14, "Content of Notice of Appeal", including the reasons for appeal. Appeals must be postmarked or received in duplicate within 45 days after the legal notice publication date in *The North Georgia News* and *The News Observer*. The appeal should be sent to: Chattahoochee-Oconee National Forests, ATTN: Appeals Deciding Officer, 1755 Cleveland Highway, Gainesville, Georgia, 30501.

Contact Information

For additional information concerning technical aspects of this decision, contact Rachelle Powell, Blue Ridge Ranger District at: USDA Forest Service, P.O. Box 9, Blairsville, GA 30514 or by phone at 706-745-6928.

For additional information on the Forest Service planning process as it relates to this decision, contact John Petrick, Forest Planner, at 770-297-3005.

Implementation

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 appeal disposition. (36 CFR 215.9) The appeal period begins immediately after publication of legal notices in *The North Georgia News* and *The News Observer*. It is anticipated to begin implementation late 2008.

Responsible Official

/s/ Alan Polk

January 24, 2008

ALAN POLK
District Ranger
Blue Ridge Ranger District

Date

Appendix – Alternative 3 detail

1. Ecosystem Restoration

A. Table Mountain Pine Restoration

Table mountain pine (*Pinus pungens*) is an endemic species to the Appalachian chain, occupying xeric or dry sites and is often associated with pitch pine (*P. rigida*). The 3 stands proposed for treatment are mid-successional shortleaf pine/oak and mixed oak/yellow pine stands. All three have a small percentage of mature table mountain pine (TMP) but lack any TMP regeneration. Restoration means getting back TMP as the ‘plurality’ of the pine stocking in the short (3 to 5 year) term. This will be accomplished using a regeneration cut that will reduce the overstory and midstory and then prescribed burning the area to provide a seedbed for TMP regeneration.

In order to promote restoration of this locally unique species a seedbed must be prepared so that seed from existing mature TMP trees have a place to grow. This preparation will occur through the removal of competition along with dense mid and understory, including mountain laurel.

The proposed actions include a 108 acre modified seedtree cut, the modification being that species other than TMP will be retained even though their seed isn’t desired, in compartment 571, stands 27, 29, and 31 from a current basal area of 130 square feet per acre down to an average of 40 square feet per acre, leaving about 30 trees per acre. All three stands contain scattered older residual table mountain pine. Along with table mountain pine, species that shall be left include pitch pine, shortleaf pine and oaks. Following the modified seedtree cut, the area will be prescribed burned to further prepare a seedbed for regeneration of table mountain pine. The burning block would be approximately 240 acres and burning will be carried out the winter after timber harvest, prior to slash curing. Effectiveness of the treatments will be evaluated by the quantity of table mountain pine regeneration 2-3 years after treatments have been carried out. A combination of both mechanized equipment (chainsaws) and multiple prescribed burns will be used as needed to control competition and promote Table Mountain Pine. Stand information and proposed treatments are listed in Table 1.

Table 1: Stands to be included in the restoration of table mountain pine community.

Ecosystem Restoration - Table Mountain Pine Community					
Comp/Stand	Acres	Stand Condition	Forest Type	Treatment	Age Year
571027	43	Sparse Sawtimber	Shortleaf Pine/Oak	Seedtree Cut & Burn	1966
571029	16	Sparse Sawtimber	Shortleaf Pine/Oak	Seedtree Cut & Burn	1966
571031	49	Sparse Sawtimber	Mixed Oak/ Yellow Pine	Seedtree Cut & Burn	1966
571025	41	Immature Sawtimber	Bottomland Hwds/ Yellow Pine	Burn	1966
571028	27	Immature Poletimber	White, Red Oak/ Hickory	Burn	1974
571032	19	Immature Sawtimber	Upland Hwds/ White Pine	Burn	1966
571034	11	Immature Poletimber	White Pine	Burn	1983
571035	37	Immature Sawtimber	Upland Hwds/ White Pine	Burn	1966

B. Restore Oak/Oak-Pine Communities

Two stands will be thinned in an effort to restore oak/oak-pine forest communities. Although this community is not rare, in some areas it has been replaced with pine plantations. These two stands have been altered by previous management activities. Compartment 566, stand 19, is dominated by Virginia Pine. The neighboring stand, 21, is a White pine-oak stand that contains some Shortleaf Pine along with some Virginia pine that has moved in from stand 19. Both stands have southern pine beetle killed spots that have opened up the area for advanced oak and shortleaf pine regeneration. Alternative 3 includes removing mature planted Virginia pine and younger naturally seeded Virginia and white pine in the two stands, further releasing the oak and shortleaf regeneration, which has already occurred in some southern pine beetle created openings. These activities are an incremental step designed to shift the composition away from pine-oak to oak/oak-pine.

The commercial thinning will take place in stands 21 and 19 for a total of 54 acres. The portion of stand 19 on the southeast side of Two Run Creek Road (FS 880) and the southwest portion of stands 19 & 21 will not be treated. This is to reduce the possibility of increased sedimentation in Two Run Creek. Both stands currently have a basal area ranging from 120 square feet per acre to 170 square feet per acre and would be thinned to an average of 65 square feet of residual basal area. Treatment activities will focus on removing merchantable, mature Virginia pine and younger Virginia and white pine in the two stands. Along with them, other species will be taken to decrease the overall basal area. Healthy mast producing red and white oak species along with Shortleaf pine will be retained. Both mechanized equipment (chainsaws) and multiple prescribed burns will be used as needed to promote Shortleaf Pine and control competition from Virginia and

white pine. The burn block would also include stands 1 & 13 in compartment 566 and would total approximately 87 acres. The stand information and treatments are listed in Table 2.

Table 2: Stands and Acres to be treated in Oak/Oak-pine Restoration.

Comp/Stand	Acres	Stand Cond	Forest Type	Treatment	Age Year
566019	28	Mature Sawtimber	Virginia pine	Thin and burn	1938
566021	26	Low Quality Sawtimber	Shortleaf pine/oak	Thin and burn	1909
566013	12	Low Quality Poletimber	Shortleaf pine	Burn	1985
566001	21	Low Quality Sawtimber	Shortleaf pine/oak	Burn	1909

C. Restore Rare Communities: Canebrakes

Alternative 3 includes the restoration of canebrake along the Etowah River near the Hightower Bridge. This area is contained within compartment 586, stand 1, where there is an existing area of river cane. Expansion of the current canebrake has been stifled by white pines that were planted along the riverbank in approximately 1982. The restoration activities would include either girdling existing white pines or cutting them in place to encourage river cane to continue and speed up its advance across the floodplain, into the area occupied by white pines, in the medium term (5-10 years) by providing a higher light intensity, resulting in higher photosynthetic rates and faster growth in the cane. The white pines currently have a basal area around 120 square feet per acre. In order to temper any major shifts in shade regime along the riverbank, approximately 50 square feet of residual basal area would remain. The restored area will be approximately two acres.

2. Forest Health

Southern Pine Beetle Prevention

The southern pine beetle (SPB) poses a persistent threat to all of the southern pine species. Maintaining a healthy and growing stand is the best way to prevent attacks. The proposed action includes the first-time commercial thin of 405 acres in nine different stands that contain a heavy pine component or are overstocked pine plantations in order to maintain stand vigor. The nine stands that will be thinned and they have an average age of 19-33 years and current basal areas ranging from 110 to 150 square feet per acre. This is approximately twice as many stems as they should have for optimum SPB resistance. The stands will be thinned to a target density of about 60 square feet of residual basal area per acre, leaving about 70 trees per acre. In cases where hardwoods are present, they would not be cut. Stand types and other information can be found in Table 3.

Table 3: Stands to be thinned for Southern Pine Beetle prevention.

Forest Health Projects - Southern Pine Beetle Prevention					
Comp/Stand	Acres	Stand Cond	Forest Type	Treatment	Age Year
567001	38	Immature Poletimber	Shortleaf Pine	SPB thin	1988
567005	13	Immature Sawtimber	Shortleaf Pine	SPB thin	1988
567012	14	Immature Poletimber	Loblolly Pine	SPB thin	1988
571010	161	Immature Sawtimber	White Pine – Upland Hwd	SPB thin	1974
586004	50	Immature Sawtimber	Loblolly Pine	SPB thin	1980
586013	37	Immature Sawtimber	Loblolly Pine	SPB thin	1979
586017	34	Immature Sawtimber	Loblolly Pine	SPB thin	1978
586040	6	Immature Sawtimber	Loblolly Pine	SPB thin	1980
586042	52	Immature Sawtimber	Loblolly Pine	SPB thin	1980

3. Early Successional Forest Habitat Enhancement

A. Creation of Early Successional Forest Habitat – Existing Wildlife Openings

Age class diversity in the Etowah River Watershed is very much slanted toward older age classes, where over half of forest communities are over 80 years old. Early successional forest habitat (ESFH) is defined as regenerating forest stands dominated by forbs and shrubs with a stand age of 0 to 10 years. Currently there are no stands in the watershed less than 10 years of age. Alternative 3 includes the creation of 34 acres of ESHF around thirteen existing permanent wildlife openings, which vary in size from one-quarter acre to approximately three acres, and 49 acres along roads in the project area. Approximately half of the proposed wildlife opening activities would occur within the Blue Ridge Wildlife Management Area. Enhancement activities around the existing wildlife openings include thinning forest habitat that surrounds the existing openings for a distance of 100 feet, to an average of 30 square feet of basal area. Trees that remain would be mast producing hardwoods like oak species, hickories and black gum or yellow pine. Georgia DNR will be allowed to use mechanized equipment to maintain the early-successional forest habitat created by this project as they have the funds and time available. Table 4 contains the numbers of openings to be treated and associated roads.

Table 4: Wildlife openings to be enhanced with early successional forest habitat.

Early Successional Forest Habitat Enhancement – Wildlife Openings		
Location	Number of Openings	Estimated Acres of Created Habitat
FS142	3	7
FS141	6	16
FS 28-1	2	4
FS 28B	2	7

B. Creation of Early Successional Forest Habitat – Road Daylighting

The daylighting project will occur on 1.6 miles of FS141, the Montgomery Creek Road, 1.4 miles of FS142, the Hightower Creek Road and 1.1 miles of FS28F, the Upper Nimblewill Road. Early successional forest habitat would be created by thinning mid and overstory vegetation to an average of 30 square feet of basal area for a distance of 50 feet from each side of the road edge. Trees that remain would be mast producing hardwoods like oaks, hickories, black gum or yellow pine. Refer to Table 5 for acreages of habitat that would be created for each section of road.

Table 5: Sections of road that will be enhanced with early successional forest habitat.

Early Successional Forest Habitat Enhancement – Road Daylighting		
Location	Length in Miles	Estimated Acres of Created Habitat
FS141	1.6	19
FS142	1.4	17
FS28F	1.1	13

4. Access/Road Management (see map)

Preventing sediment from permanent forest roads from reaching a stream channel is important in every watershed. To do this, roads must be maintained with adequate water drainage structures. Alternative 3 includes 8 miles of maintenance on 3 permanent Forest Service roads that would receive water drainage improvement: FS880 (Two Run Creek), FS141 (Montgomery Creek) and FS98 (Dunn Branch). These roads have existing culverts and/or drainage structures that will be reworked to reduce soil erosion and improve or restore their effectiveness. The Two Run Creek road (FS880) will also be blocked from vehicle passage on the northern end where it adjoins private property.

5. Soil and Water Improvement

The forest service has recently acquired a property near Pierce Cemetery on the Hightower Church Road. There is an unnamed, eroding road on this property, just west of Pierce Cemetery, that has the potential to impact soil and/or water quality. This road, which is approximately 500 feet, will be blocked from vehicle passage with either natural barriers or a gate, revegetated and have suitable water diversion structures like water bars, check dams or broad-based dips installed.

6. Stream Habitat Enhancement (see map)

Alternative 3 includes the enhancement of stream habitat conditions for trout and other aquatic species in Montgomery Creek and the Etowah River. The stream segments proposed for work are low gradient, with limited cover and pool habitat. The work would improve habitat conditions by deepening pools, constricting the channel to flush sediments, providing cover, and stabilizing stream banks to prevent further erosion. The logs used to construct the structures would be obtained from nearby trees. Maintenance will be done on existing improvement structures in Montgomery Creek as well as the construction of new stream improvement structures in both Montgomery Creek and the Etowah River.

MITIGATION MEASURES

Below are important mitigation measures for this decision. They include some, but not all, mitigation related to the project actions. Other mitigation is detailed in the Forest Plan as well as the publication entitled “Georgia’s Best Management Practices for Forestry.” Both of these documents can be reviewed at the Blue Ridge Ranger District Office in Blairsville, GA.

- 1) In all stands that are to be thinned/restored, existing old skid trails and log decks will be utilized where possible, reducing the need to construct new skid trails and loading decks.
- 2) Erosion control measures (i.e. revegetation) will occur on skid trails and log decks where there is exposed soil within 30 days completion of activities in the area and water control structures will be built within 30 days of completion of activities in the area (Standards FW-066 & FW-067, Plan 2-22).
- 3) For all work proposed along FS 28F, 28B and 141, the following mitigation measures will be followed to limit disruption of recreation activities occurring along the Jake/Bull Mountain Trail System and within the Blue Ridge WMA:
 - a. To the extent feasible, schedule project work during the winter season, and outside of organized hunts on the Blue Ridge WMA.
 - b. Information will be posted on the Chattahoochee – Oconee National Forest website and signs will be posted in the area describing the vegetation management activities and providing information on other hiking, biking, or horseback riding opportunities in the area for a period before and after the project implementation.
 - c. FS 28B will be closed during the implementation phase of the project, with notices being posted at all intersecting trail crossings (Intersection 3K and 3L).
 - d. Reshape the dips and wing ditches of FS 28F and narrow the track width to prior limits to retain the pre-existing character of the road.

- e. After FS 28F is used for hauling or skidding, the road will be lined with slash to deter off-trail travel, but no higher than 2 feet from the ground.
 - f. FS 28F will be gated year round, and remain in use for administrative purposes, allowing non-motorized public use, only.
- 4) All streamside management zones will be protected in accordance to “Georgia’s Best Management Practices for Forestry” (Management Prescription 11 Standard 11-022, Plan 3-180).
 - 5) All prescribed burning activities will be carried out with approved prescribed burn plans that only allow burning under conditions that will have little impact on adjoining residential areas. Smoke management procedures will be followed.
 - 6) Timber purchaser must remove any trash they bring into the area and their equipment must be washed when moving from one area to the next to prevent the spread of non-native invasive species.
 - 7) Scenery Integrity Objectives (SIO) will be upheld by implementing the following mitigation measures:
 - a. For project areas within stands 25 and 27 of compartment 571 classified with a SIO of HIGH, follow measures B, H, I, T and Y as identified in Appendix E of the EA.
 - b. For project areas within stands 28, 29 and 31 of compartment 571, which can potentially be seen from the Appalachian National Scenic Trail, follow measures B, I, T and V as identified in Appendix E of the EA.
 - c. For project areas within stands 19 and 21 of compartment 566 classified with a SIO of HIGH, follow measures B, D, E, F, G, I, T, V and Y as identified in Appendix E of the EA.
 - d. For project areas within stand 1 of compartment 566, which can potentially be seen from the Appalachian National Scenic Trail, follow measures B, I, T and V as identified in Appendix E of the EA.
 - e. For project areas within stand 1 of compartment 567 classified with a SIO of HIGH, follow measures B, C, D, E, F, G, I, T, V and Y as identified in Appendix E of the EA.
 - f. For project areas within stands 13 and 17 of compartment 586, which can potentially be seen from the Jake and Bull Trail System, follow measures B, D, T and AA as identified in Appendix E of the EA.
 - g. For project areas within stand 5 of compartment 567, which can potentially be seen from the Appalachian National Scenic Trail, follow measures B, I, T and V as identified in Appendix E of the EA.
 - h. For project areas within stand 10 of compartment 571, which can potentially be seen from the Appalachian National Scenic Trail, follow measures B, I, T and V as identified in Appendix E of the EA.
 - i. Shape and orient vegetative management openings in the forest canopy to contours and existing vegetation patterns to blend with existing landscape

characteristics for all High and Moderate SIO areas. No geometric shapes shall be created.

- j. Promptly rehabilitate firelines to appear natural in areas of High SIO.

MONITORING

The Forest Plan requires monitoring to determine how fully Plan goals and objectives are met and how closely management standards are applied. Some important monitoring elements for Alternative 3 are listed below. A detailed monitoring plan is on file in the project folder.

- 1) All treatments will have monitoring conducted during implementation. This includes contract administration as well as direct oversight on force account (work carried out by Forest Service employees) implementation.
- 2) First and third year regeneration checks will be done in the Table Mt. Pine restoration area. This will be to check for establishment of TMP regeneration and determine if further treatment is needed, either to release TMP regeneration or to encourage establishment of TMP regeneration.
- 3) In the oak/oak-pine restoration areas regeneration checks will be done after 2 or 3 years to see what further treatments are needed, whether prescribed burning or mechanized removal, to release oak and shortleaf pine regeneration.
- 4) The area for canebrake restoration will be checked after 1 year to assure that the canebrake patch has expanded into the area where the white pine competition has been removed.
- 5) Post burn evaluations will be conducted after every burn in the project area. This monitoring is done to determine if resource objectives were met, if additional restoration is needed or if there were any adverse effects.