



**File Code:** 1950

**Date:** June 20, 2008

Dear Friend of Land Between The Lakes:

The US Forest Service Land Between The Lakes National Recreation Area (LBL) is seeking your involvement in the process of preparing an Environmental Assessment (EA) for the restoration of the shortleaf pine vegetation community within and adjacent to the Devil's Backbone State Natural Area. I am requesting your input early in the process as required under the National Environmental Policy Act (NEPA) 40 CFR 1500-1508. This part of the process is referred to as "scoping" under NEPA.

## Background

The staff at Land Between The Lakes (LBL) is beginning the initial stages of analysis to implement the Land and Resource Management Plan (LRMP) in the Devil's Backbone Project Area in the southwestern portion of LBL.

The need for this project was first identified during the development of the 2004 Area Plan. An internal Forest Service document entitled "Panther Creek Watershed Assessment" characterized the watershed which includes the Devil's Backbone State Natural Area and will serve, in part, as the baseline for all environmental analysis in this project. This assessment identified potential management issues and opportunities, information gaps, and recommended a list of actions intended to mitigate or remove key threats to forest and watershed health.

Shortleaf pine (*Pinus enchiata*) is a declining species, not only at LBL where it occurs in the southwest portion of the area, but in all of North America. The proposed project area is recognized as a Tennessee State Natural Area (SNA) and is managed in cooperation with the State of Tennessee to restore and promote shortleaf pine.

The lack of disturbance within the current LBL stands of shortleaf pine has led to the gradual succession of shortleaf dominated stands to more upland oak forest types. Fire is the primary disturbance regime that would have allowed the early successional pine to dominate the area. Fire suppression policies of the last century have not allowed fire to perform its natural ecological role, and as a result, hardwoods have succeeded into the understory under the shortleaf pine canopy. A landscape in which fire is allowed to burn in this natural pattern will eventually discourage advanced hardwood regeneration and will reduce the leaf and duff layer allowing pine seed to contact the mineral soil and germinate. This, coupled with adequate light to the forest floor, will allow for shortleaf pine to regenerate naturally from seed.



Shortleaf pine is even more shade intolerant than oak species. In order to successfully regenerate shortleaf pine naturally, canopy gaps are needed between the remaining large shortleaf pines that are kept evenly distributed, as the seed source. In addition small, non-merchantable hardwood trees will need to be controlled until the shortleaf regeneration can become well established. This can be achieved through several combinations of burning, herbicide, and mechanical treatments.



*Rare example of where canopy and soil disturbance has occurred to produce conditions that allowed for a shortleaf pine seedling to establish in the Devil's Backbone Project Area. Note oak competition to the right.*

## Vision and Area Wide Goals

The foundation of this project proposal lies in the LRMP which has a broad *Vision* that is refined further by the area wide *Goals* and *Objectives*. The *Vision* set forth by vegetation management at LBL in general, is to manage for diverse, resilient, biological communities. These management activities are designed to sustain or improve wildlife habitat, forest health, recreation opportunities, and environmental education experiences. Much of the vegetation management is aimed at restoring ecological conditions to those best suited for sustaining native plant and wildlife species, including the shortleaf pine forest. The desired conditions set forth by the land allocation prescriptions of the LRMP also serve as a filter in making specific *Goals* and

*Objectives* that are not only attainable but measurable also. The specific land allocation prescription for Devil's Backbone is listed on page 31 of the LMRP.

*Goals* are concise statements that begin to focus the picture of how LBL will look in the future. *Objectives* form the time-specific, measurable, planned results that will help meet the goals. Although they are a lengthy inclusion in this letter, they serve to frame the proposed actions and to validate the purpose and need for action. For more information on resource planning at LBL, please visit [www.LBL.org](http://www.LBL.org) and look for "Resource Planning".

**Goal 1: Prioritize projects to provide the greatest recreation, environmental education, and resource stewardship benefits.**

**Goal 2: Emphasize partnerships and cooperation with citizen groups, community businesses, private corporations, tourism organizations, and government agencies.**

**Goal 3: Utilize a variety of methods and opportunities to provide an environmental education message to every visitor.**

**Goal 5: Use a collaborative approach to maintain and restore: 1) a diversity of plant and animal communities that support viability of associated plants, fish, and wildlife; and, 2) sustainable levels of habitat and wildlife populations to support public demand for wildlife-related recreation.**

**Objective 5f: Create and maintain at least 250 acres of shortleaf pine forest by developing desired mature open forest and woodland structural conditions over the first decade with a long term objective of 450 total acres of shortleaf pine forest.**

**Goal 6: Demonstrate and widely export innovative, efficient, and effective management techniques that can benefit others.**

**Goal 7: Enhance dispersed recreational and environmental education opportunities throughout LBL.**

**Goal 8: The LBL Area Plan will remain effective and usable and lead to accomplishments that support National Strategic Goals.**

## Project Area

The proposed project area is located in Stewart County, Tennessee, west of The Trace, south and east of Forest Service (FS) Road 230 known as Fort Henry Road, just north of U.S. Highway 79 and is within Land Between The Lakes. Covering approximately 1,500 acres, the project area is located within the Panther Creek Watershed and in the area of several hiking trails including Telegraph, Shortleaf, and Artillery.

## Purpose and Need for Action

The purpose of this project is to support key objectives derived directly from LBL's LRMP and the Panther Creek Watershed Assessment. The actions necessary to implement desired changes are as follows:

- ◇ Application of Appropriate Silvicultural systems.
- ◇ Integration of Environmental Education with respect to resource management at LBL.
- ◇ The enhancement of dispersed recreational opportunities and trail system sustainability.
- ◇ Continuation and growth of cooperative partnerships.

## Collaboration and Partnership

The management of public resources would be incomplete if there were not partnerships developed with other land management agencies and local officials. By developing a partnership with the Tennessee State Natural Area Commission and a local school district, LBL will achieve both objectives. The Tennessee State Natural Area Commission will help provide cooperative assistance in the design and implementation of this project. A partnership formed with the school district would be instrumental in building community relations and creating a non-facility based environmental education opportunity at LBL.

## Proposed Actions

With the above purposes identified by the LRMP and the need for actions framed by resource management Goals and Objectives, the Forest Service is proposing action in the Devil's Backbone Project Area.

The actions proposed by the Forest Service to meet the purpose and need for this project area are:

1. Vegetation Management to facilitate maintenance of the mature shortleaf pine community type as well as regeneration.
2. Creating an Environmental Education Partnership with a local high school.
3. Improving trail system with re-routes, designated parking area, and trail decommissioning.

- Vegetation Management Actions

The following proposed actions all support Objective 5f of the 2004 LRMP.

**A. Proposed Action** – A combination of dormant and growing season prescribed burns of the project area multiple times over the next 20 years.

**Connected Actions** – Construct 0.8 mile of fire line with a bulldozer in an old roadbed that makes up the southeast boundary of the project area.

**This management action is needed** because fire and canopy gaps are the main agents of disturbance that will reset succession back to the shortleaf pine community type. Prescribed fire is critical in reducing the litter layer and preparing the seedbed for natural regeneration of shortleaf pine. Fire will also play an important role in the growing season by reducing the sprouting of top-killed hardwood saplings. Once a new generation of shortleaf pine is established and of sufficient size, fire will be needed to maintain an open understory in order to recruit new pine seedlings and minimize hardwood understory competition.

**B. Proposed Action** – Regeneration harvest of a maximum 350 acres of currently closed canopy forest with a shortleaf and oak mix present (identified during preliminary analysis) on dry and xeric sites. This action would include a mixture of seed tree with reserves, modified group selection or other regeneration harvests. The seed tree method would likely leave 15-20 of the best seed producing trees per acre that would remain on the site. The group selection method would create 0.5-1.0 acre sized irregularly spaced openings for shortleaf regeneration. If the natural regeneration standard of at least 150 seedlings per acre is not met by the third year after the regeneration harvest, then spot planting of shortleaf pine within the harvest area will be used to accomplish this goal.

**Connected Actions** – The application of a selective herbicide, using either Imazapyr or glyphosate. This treatment will control the advanced hardwood regeneration present in the understory and midstory levels. The undesirable hardwood competition will otherwise hinder growth and shade out the newly developed shortleaf pine regeneration before establishment is possible. This action is proposed on a maximum of 100 acres. These treatments will only be implemented in stands where monitoring suggests that the burns have not been effective in controlling understory hardwoods. Each stand will be evaluated individually, but only these 100 acres will be considered for herbicide treatment.

**This management action is needed** because there is currently no regenerating shortleaf pine in the project area or in LBL for that matter. This lack of a young shortleaf pine age class (0-10 years) is due to the fact that shortleaf is more shade intolerant than hardwoods, including oak species. In combination with site preparation burns, canopy gaps will enable shortleaf pine seeds to germinate by allowing sufficient amounts of sunlight to reach the forest floor. Further burning and chainsaw release treatments will allow the new generation of shortleaf pine to reach a dominant position in the overstory, and thus restore its dominance on the site. It is likely that in some stands there are too many hardwood stems in the understory for fire alone to control. Fire and chainsaw

treatments can kill the above ground portion of a hardwood tree, but it will continue to sprout because of the well established root system already in place. The herbicide will kill the root system so no resprouting of target understory trees will occur.

**C. Proposed Action** – Intermediate thinning on up to 300 acres of shortleaf pine and shortleaf-oak mixed forest types. This thinning would remove less than 50% of the basal area density in these stands to open up the understory and would move the species composition and forest structure toward the desired condition of an open forest and woodland conditions exhibiting grassy understories and shortleaf pine regeneration.

**This management action is needed** because the current stands with much shortleaf pine have a closed canopy with no light reaching the forest floor. In combination with the burns, the thinning will allow for a more conducive environment for natural shortleaf pine regeneration in the future.

**D. Proposed Action** – Release treatment with the use of chainsaws and other brush cutting devices on a maximum of 350 acres. Applying a release treatment will release established shortleaf pine seedlings from hardwood competition. This action will occur after the regeneration harvest in some units and as a timber stand improvement treatment in non-harvested stands. This proposed action is a non-commercial activity.

**This management action is needed** because once shortleaf pine regeneration is established, fire will need to be excluded for a short period of time. This is necessary for two reasons. First, until the majority of shortleaf pines have reached a height where the terminal bud is taller than the average flame length they will be susceptible to top kill from a ground fire. Secondly, during this time period the young shortleaf will also have a chance to increase exterior bark thickness, reducing the probability of being killed by cambium scorching. In the meantime, chainsaws can be used to more selectively control hardwood competition and release the shortleaf seedlings until burning can resume.

**E. Proposed Action** – Control and monitoring of existing non-native invasive plants along roads and trails within the project area. Spot foliar application of glyphosate will be implemented prior to harvest. This application is proposed along the existing roads and trails of the project area and will not exceed 100 acres in size.

**This management action is needed** to limit the spread of invasive plant species that occur in and at the edge of the project boundary.

- **Environmental Education Actions**

**F. Proposed Action** – Partner with a local high school to enhance learning opportunities in a science class (Research or Forestry units possibly) by providing two fall field trips annually. Students will study and compare forest management actions and results by establishing study plots located in the project area. Examples of data possibly collected

by the students include counting and measuring seedlings, documenting tree growth, shortleaf pinecone collection, and/or identifying invasive species among other actions. The Forest Service would form a partnership agreement with the school district in order to formulate a natural resource curriculum with built-in assessments and resolve any funding issues as they relate to the environmental education actions, more specifically the costs related to transporting students to and from the project area.

**This management action is needed** to insure that the Environmental Education (EE) program creates a solid science project and firm school partnership in order to complement and display our spectrum of EE opportunities. These field trips will help address Tennessee State Board of Education Standards 1.0, 2.0, 4.0, 7.0, 9.0, and 10.0 in Forestry; 2.0, 3.0, 4.0, and 5.0 in Scientific Research; and 1.0, 3.0, and 5.0 in Ecology. This action responds to the LRMP Goals 1, 3, and 7 and their objectives. This action supports Goals 1, 2, and 3 of the Environmental Education Master Plan (located at [www.lbl.org/07EE-Masterplan.pdf](http://www.lbl.org/07EE-Masterplan.pdf)) here at LBL. Furthermore, research and data collected by the students will not only enhance their educational experience, but will also be providing a voluntary service to LBL by providing some needed monitoring data for future analysis and actions.

- **Dispersed Recreation Management Actions**

**G. Proposed Action** – Implement three trail re-routes within the project area (two associated with Artillery and one on Telegraph), eliminate Shortleaf Trail, and create a trailhead at the intersection of Telegraph Trail and FS Road 400. Currently there is no proposed action relating to any other trails inside the project area boundary.

**This management action is needed** to sustain the existing Ft. Henry Trail System within the project area boundary. The trails within the project area consist of Artillery, Devil's Backbone, Shortleaf, and Telegraph Trails. This proposed action supports goals 4 & 7 specifically OBJ4B, OBJ7a, and OBJ7b of the 2004 LRMP. From a trail design/layout and sustainability perspective, several sections require immediate consideration for potential re-route construction or even decommissioning. All trails are currently designated as hiker only and a true single-track trail is non-existent. The two proposed re-routes associated with Artillery will mitigate fall-line sections of the trail resulting in construction of true single-track following the contour and thus eliminating unnecessary maintenance costs. The re-route associated with Telegraph will eliminate a fall-line trail (section of trail that does not contour slope) and also relocate the trail out of a sensitive riparian area. The existing Shortleaf Trail is proposed to be decommissioned in order to reduce maintenance cost, eliminate a trail parallel to Devil's Backbone and Artillery, and create a larger loop system within The Ft. Henry Trail System as a whole. The trailhead is proposed in order to provide users with a safe and designated parking area with better accessibility to the trails.

## Tribal Consultation

Tribal consultation to address potential impacts or concerns related to traditional use or sacred sites as a result of project implementation and to meet the requirements of the National Historic Preservation Act (NHPA) of 1966 as amended, the American Indian Freedom of Religion Act, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act is coordinated with the NEPA process in order to address concerns early in project development. If your tribe has information, comments, or concerns related to historic properties with traditional or religious significance pertaining to this project, please email them to [comments-southern-land-between-lakes@fs.fed.us](mailto:comments-southern-land-between-lakes@fs.fed.us) with the project name and Tribal Comment in the subject heading. You may also learn more about the project by visiting: <http://www.lbl.org/LRMPPProjects.html>.

## Public Involvement

The placement, type, and scale of these proposed actions are not decided issues. As shown in the above purpose and need statement, the Forest Service has developed some issues relevant to this project. I envision that other issues exist. In order to census issues which I have not considered, and of which I may not be aware, I invite your comments and suggestions. To be most helpful, please provide explanations of your concerns or support. Throughout the NEPA process for this project, there will be other opportunities to provide input. Sharing specific concerns with us early in the process will lead to a more collaborative approach in resolving those concerns.

We are beginning the public scoping process to determine alternatives to be considered and issues to be addressed in the development of these proposed actions. Please send your comments to: Jaime Hernandez, Land Between The Lakes NRA, 100 Van Morgan Drive, Golden Pond, KY 42211; e-mail: [comments-southern-land-between-lakes@fs.fed.us](mailto:comments-southern-land-between-lakes@fs.fed.us); telephone (270) 924-2073. To be most useful, your comments should be received by July 22, 2008. Please also let us know if you would like to be kept informed of this project during the planning stages.

## Section 106 Public Participation

Section 106 public participation for NHPA is being initiated through the SOPA list and notice on our website: <http://www.lbl.org/LRMPPProjects.html>. Any questions, concerns, or comments related to heritage compliance for any of the projects on the SOPA or website project listings should be emailed to [comments-southern-land-between-lakes@fs.fed.us](mailto:comments-southern-land-between-lakes@fs.fed.us) with the project name and Heritage Comment in the subject heading.

Thank you for your interest in resource management at LBL.

Sincerely,

*/s/ William P. Lisowsky*

WILLIAM P. LISOWSKY  
Area Supervisor