

*Mark Twain National Forest  
Poplar Bluff Ranger District*

**PROJECT SUMMARY**

*Pine Fuel Reduction Project: Compartment 161  
Butler County, Missouri*

**Project Location**

The project area is located in Compartment 161, Township 25 North, Range 4 East, Sections 9, 22, and 27. This is an area that generally surrounds Beaver Lake, a dispersed Forest recreation area.

This area is one of several areas on the Poplar Bluff Ranger District identified for pine fuel reduction treatments in “Category 2: Intermix Communities” as defined in the Federal Register Notice of January 4, 2001 regarding “*Urban Wildland Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire*”. Urban **Wildland Interface** is defined as the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Homes occupied seasonally and year-round were constructed over the past few years in the project area. Development density ranges from structures very close together to one structure per 40 acres. An alternative definition of an intermix community emphasizes a population density of between 28-250 people per square mile.

**Proposed Action**

We propose to utilize thinning and burning for fuel reduction in an urban wildland interface area of the Poplar Bluff Ranger District in Compartment 161 on 20 stands totaling an estimated 421 acres (See attached map and stand listing). Thinning would involve reducing the density of trees in the area to approximately 60-70 square feet per acre. Current density is over 100 square feet per acre. Prescribed burning treatments would entail using multiple, periodic controlled burns on an as needed basis over the next ten years to reduce and maintain fuel loading to an acceptable level.

Thinning and burning would be used to achieve the following objectives:

- Reduce risk of crown fire by eliminating or reducing the interconnection of pine tree crowns.
- Reduce fuel loading by removing, reducing, or consuming accumulated fuels.

Connected actions necessary to accomplish the proposal may include fire line construction, temporary road construction, and limited maintenance of existing roads (i.e., draining or gravelling mud holes).

## *Mark Twain National Forest Poplar Bluff Ranger District*

### **Background**

During 2000, more than twice the 10-year national average of wildfires burned 6.8 million acres of public and private land, and 861 structures were lost throughout the country. In 2001, 3.6 million acres burned and 731 structures were lost. In 2002, 8.4 million acres burned in 122,827 wildfires, and 2,381 structures were lost (**National Interagency Coordination Center [(NICC), 2003; <http://www.nifc.gov/fireinfo/2002/index.html>]**). The magnitude of the fires is attributed to weather conditions (drought and wind) and the long-term effect of aggressively suppressing wildfires, and allowing brush and small trees to build up in the forests (Lavery and Williams 2000).

The cost in human life was unacceptable. Seventeen wildland firefighters died in wildfire suppression efforts in 2000. In 2001, 18 lives were lost. In 2002, 23 firefighters died (**National Interagency Coordination Center [(NICC), 2003; <http://www.nifc.gov/fireinfo/2002/index.html>]**).

Suppression costs were also substantial. In 2000 suppression cost almost \$1.36 billion. In 2001, costs approached \$917 million. And, in 2002, costs exceeded \$12.6 billion (**National Interagency Coordination Center [(NICC), 2003; <http://www.nifc.gov/fireinfo/2002/index.html>]**).

Research indicates that lower fuel loading can be obtained through thinning and prescribed burning and that lower fuel loads will result in a reduction of high-intensity wildfires and associated costs of extinguishing them (USFS 2000c; GAO 1999; Smith 2001; USFS 2000a; Lavery and Williams 2000).

The overall need for fuel reduction as an effective means to reduce wildfire occurrence is demonstrated in numerous studies, including one completed by the USFS Strategic Overview of Large Fire Costs Team (USFS 2000a). The team was assembled to outline recommendations for fire management policies and direction for the program after large, catastrophic fires. According to the team, elevated fuel levels in forests make effective and efficient fire fighting extremely difficult and dangerous. The recommendations were developed to address the threat of safety to both communities and firefighters. Among the team's recommendations (USFS 2000a):

- Tier fire management to Land Resource Management Plans (LRMPs) and use prescribed fire as an equal resource management tool
- Implement an aggressive fuel management program

In August 2000, a Presidential directive required the Secretaries of Agriculture and the Interior to develop a response to severe wildland fires, reduce fire impacts on rural communities, and ensure effective future firefighting capacity (U.S Department of Interior and U.S Department Agriculture 2001). This resulted in the development of the Congressionally-supported National Fire Plan (NFP). The FY 2001 Appropriations Act supporting the NFP, among other things, listed Urban Wildland Communities Within the Vicinity of Federal Lands That Are High Risk From Wildfire (Federal Register 2001). This list is to be used to identify priority areas that would benefit from hazardous fuel reduction treatments. This list includes 84 communities within or adjacent to the Mark Twain National Forest (MTNF).

## ***Mark Twain National Forest Poplar Bluff Ranger District***

In addition, Congress also directed the US Department of Interior (USDOI) and US Department of Agriculture (USDA) to work with governors to develop a national 10-year Comprehensive Strategy to deal with wildland fire and hazardous fuels situation. This strategy identified prioritizing hazardous fuels reduction where the negative impacts of wildland fire are the greatest as one of its major goals. The strategy acknowledges the importance of fire suppression, but indicates the need for a shift in fire management emphasis from a reactive to a proactive approach. The focus is on hazardous fuels reduction, integrated vegetation management, and fire-fighting strategies (USDOI & USDA 2001).

Extensive areas within the MTNF are classified Fire Condition Class 2, and to a lesser amount, Condition Class 3. The “condition class” is a risk descriptor associated with alteration of fire regimes. Condition Class 2 develops when one or more fire intervals are missed (often as a result of fire suppression efforts) and the understory vegetation becomes denser. The accumulated understory tends to burn more intensely, increasing the difficulty in suppressing a fire and resulting in a more pronounced impact on biodiversity, soil productivity, and water quality over time.

In Condition Class 3, fires are relatively high risk and the fire intensity is more severe, impacting large trees that normally would survive fires of lower intensity. This condition class is high risk based on the danger posed to people and the potential for long-term resource damage.

Many dense pine stands scattered across the Poplar Bluff Ranger District consist of 30- to 60-year-old, overcrowded stands where tree canopies interconnect. Trees in these conditions tend to be weakened by the competition for available growing space and become more susceptible to disease, insects, wildfire, and drought. Many of these stands are characterized by overcrowding and by weakened, dying, or dead trees that provide elevated fuel loads for wildfires. The 20 stands proposed for treatment in this project proposal are a representative sample of these dense, overcrowded pine stands. The current fuel types, loading, and density on the selected project stands are conducive to stand-replacing wildfires. Stand replacing wildfires are fires that burn intensely under adverse weather conditions and in accumulated fuels, thereby fundamentally changing the vegetative composition of the ecosystem, destroying communities and/or wildlife habitat, or entire stands.

### **Purpose and Need**

The primary purpose of the proposed project is to reduce the risk of catastrophic fire in the Beaver Lake area on the Poplar Bluff Ranger District by reducing fuel loading and disrupting the continuity of fuel in stands identified as dense pine woodlands.

The Forest Plan identifies a number of multiple-use and resource management goals that are achieved by implementing the plan. The Forest Plan Fire Management Goals include:

- Identify a cost-efficient response to fire prevention and suppression based on objectives for the management area and the values that are at risk (Forest Plan, IV-3).

***Mark Twain National Forest  
Poplar Bluff Ranger District***

- Implement prescribed fire as a tool to meet resource management objectives (Forest Plan, IV-4).

As part of the direction for fire management, on page IV-74, the Forest Plan states, "... fuels management will be planned based on an analysis of probable fire location, expected fire intensities, potential net resource value change, and risk to health and safety, and will be addressed in the development of management area action plans".

This pine fuels reduction project proposes to meet this purpose by using combinations of pine thinning and prescribed burning to: interrupt the fuel continuity, increase crown spacing, or both; reduce the available long-term fuel loads; and maintain stand health to delay tree mortality induced by crowding.

**Decision to be Made**

Whether or not to implement the proposed pine fuel reduction project.

**Target Date for Completion of Analysis and a decision**

January 2004

**Contact Person(s)**

Bill Paxton, Resource Analyst, at 573-785-1475  
Henry Hickerson, District Ranger, 573-785-1475

*Mark Twain National Forest  
Poplar Bluff Ranger District*

**Poplar Bluff Ranger District  
Compartment 161**

<u>Stand #</u>	<u>acres</u>	<u>age</u>
5	27	46
7	20	41
8	14	41
9	21	43
11	26	46
12	18	41
13	13	41
15	31	41
23	30	46
30	47	45
31	10	41
32	7	41
33	12	41
34	14	41
36	9	41
37	34	46
38	24	46
40	10	45
41	43	46
42	11	41
<b>Totals</b>	<b>20 stands</b>	<b>421 acres</b>