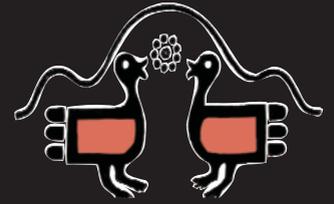




Bandelier National Monument Fire Management Program



Fall/Winter 2007 Edition



Crew prepares Upper Frijoles Project Area 9 for a prescribed burn. NPS Photo



Pile burning eliminates fuel in the proposed prescribe burn area, NPS Photo

For the first time since the Cerro Grande Fire in 2000, prescribed fire was used at Bandelier last fall. Weather conditions were too wet at the higher elevations so this first prescribed burn was conducted around the entrance station. The fire reduced some of the fuels around the park entrance, however; the high elevation fuels went another season without treatment.

Weather conditions permitting, we will once again attempt to burn the Upper Frijoles Unit in Bandelier this September. We have too much fuel in many hard-to-reach canyons that may become pathways for wildfires to travel in to surrounding lands and communities. These fuels must be burned to be reduced. As always, firefighter and public safety is the number one priority when conducting any fire management operation in Bandelier.

Bandelier will also be hosting several public meetings to discuss fire use, the Upper Frijoles burn and the possibility of once again conducting spring prescribed burns. Please come to these meetings to share your opinions. Read on in this newsletter for more information about the upcoming fire efforts at Bandelier and fire management public meetings. If you have any questions, please give us a call.

Darlene M. Koontz, Superintendent

Prescribed Fire Planned At Bandelier



Bandelier National Monument plans to conduct a prescribed burn in Upper Frijoles Project Area 9 (see map). A prescribed burn is a fire that is intentionally lit by fire personnel under predetermined conditions to meet specific goals and objectives. These prescribed fires will only be ignited if and when conditions are favorable for a safe and successful outcome. Prior to ignition, a written and approved prescribed fire plan must exist, and National Environmental Policy Act (NEPA) requirements must be met.

The burns will be conducted this fall or early winter, anytime from September to December 2007, under appropriate weather conditions, such as higher humidity and low winds. Many factors impact the decision to implement this project, including, but not limited to, weather conditions, past and present precipitation, and fuel conditions. If we do not find the "window" of opportunity this year, we will try again in 2008.

Resources working on the burn will include firefighters from the Bandelier Fire Management Staff, Los Alamos County Fire Department, Santa Fe National Forest, the Bureau of Indian Affairs (BIA), other National Park Service (NPS) units, and possibly other state and local agencies. The park will also conduct appropriate coordination with all adjoining landowners and agencies.

The Project Area is divided into four units: 9AB, 9C, 9E, and 9DF as shown on the map. The burning of each unit could take approximately two to three days to complete, making the timeframe for the project 8 to 12 days. Fire patrols will continue for an additional week after ignitions are completed. Ideally, all units will be burned in consecutive days, but this could change based on weather

What: A prescribed burn (up to 1505 acres)

Where: In Upper Frijoles Project Area 9 which is located in upper Frijoles Canyon near the Sandoval County line and the northern boundaries of Bandelier National Monument (see map below)

When: Any time conditions are appropriate from September to December, 2007.

Why: To reduce the risk to lives and property from catastrophic fire

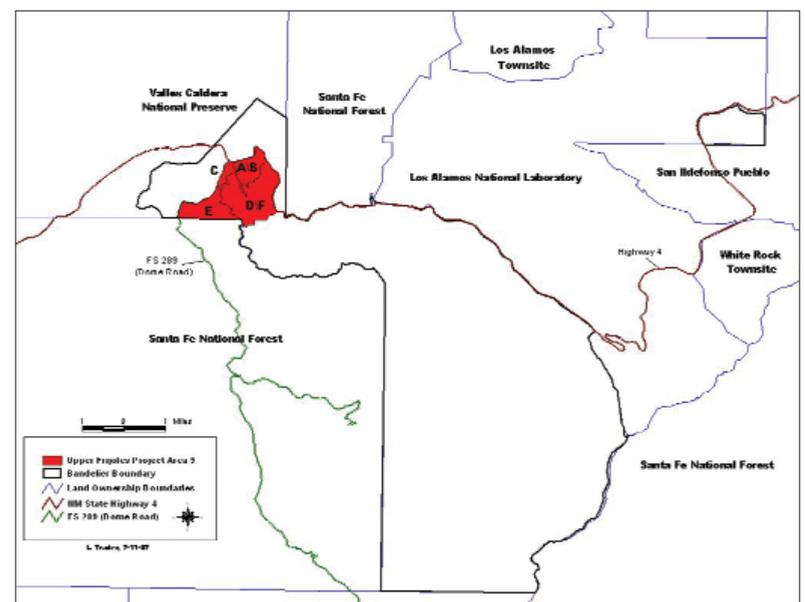
conditions.

Upper Frijoles Project Area 9 is located in upper Frijoles Canyon, near the Sandoval County line and the northern boundaries of Bandelier National Monument. It is west and south of State Highway 4, and east of Forest Road 289 (Dome Road) (see map).

The overall goal of the project is to help protect life, property, and the Monument's natural and cultural resources from the potential impacts of catastrophic fire by safely reducing forest fuels (smaller diameter trees, branches, twigs, logs, and needle litter layers) that have accumulated over the years. Re-introducing fire to this landscape, where historically cool fires burned every 8 – 15 years, will also improve ecosystem function.

Bandelier's Fire Ecology Program has installed 40 vegetation and fuel monitoring plots in Upper Frijoles Project Area 9. Data has been collected on all of the plots and will be collected for many years after this prescribed fire is implemented. This data will give

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Map showing location of planned prescribed burn

Ponderosa Pine: A Fire Evolved Species

The town of Los Alamos was constructed within the Ponderosa Pine Forest, an ecosystem in which vast stands of towering Ponderosa Pine are the predominant vegetation type. The life history characteristics of Ponderosa Pine (*Pinus ponderosa*) indicate that this species, which is thought to have been present in the southwest for approximately 8,000 to 12,000 years, is a fire evolved species. "Fire evolved" means that present-day ponderosa pine trees have characteristics that have been influenced and shaped by fire, and these characteristics have allowed them to persist through time in the presence of frequent, low intensity, surface fires.

Low to moderate intensity fires create favorable conditions, such as exposed mineral soil and a surplus of nutrients, for the establishment of ponderosa pine (photo below).



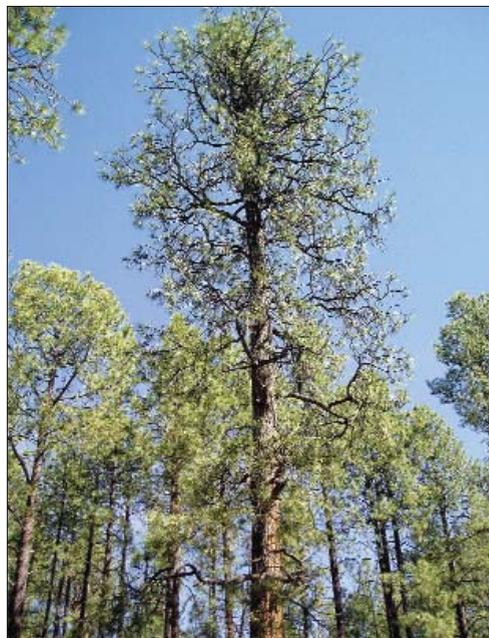
Ponderosa pines have a thick, insulating bark that is relatively inflammable (photo below).



Ponderosa pines go through a process of self-pruning, or a natural loss of the lower limbs. Without these lower branches to carry fire up into the crowns, fire tends to stay on the forest floor (photo below left).



If fire were to get into the crowns, which has happened historically, the open structure of the canopy doesn't promote flames, or extensive crown fires (photo to right).



Ponderosa pines have thick, protective bud scales (photo below).



Ponderosa pines have tight needle bunches that enclose and protect meristems (plant tissue from which new cells are formed) (photo above), but then later open into a loose arrangement that does not easily carry flames (photo below).

Ponderosa pines have a deep rooting habit, which protects the roots from the extreme heat on the forest floor during a fire (photo below right).



Once established, ponderosa pine forests perpetuate and promote frequent surface fires because the forest litter layer consists of long needles that lose moisture quickly and contain highly flammable compounds. Having homes in an environment where frequent fire is an essential ingredient can be a challenge. Here fire can not be eliminated but must be used as a tool to create a safer and healthy place in which to live.

Local Area Fire Information

To report a fire call 911
Remember the following when you have questions about wild-fire, prescribed fires, or fire restrictions:
-Bandelier National Monument, fire management office (505)662-7065 x 28 or e-mail at band_fire@nps.gov.
-Santa Fe National Forest call 1-877-FIRE(3473).
-For more fire information go to www.nmfireinfo.com.

We Need Your Help!

Bandelier National Monument is creating a program, similar to the Junior Ranger Program, working with schools. This program will provide an opportunity for students to become Junior Fire Ecologists when their class completes activities from the Bandelier Fire Ecology curriculum. You have a chance to create a patch that could be used in the program for years to come. How? Draw your design in the box to the right. Put your name and phone number in the bottom left-hand corner. Either send your sketch to the park (Bandelier National Monument, 15 Entrance Road, Los Alamos, New Mexico 87544) or bring it by the visitor center. A winner will be chosen at the end of September and a grand prize will be awarded. The winning artist must sign a release so the artwork can be used to create the new patch. Unfortunately submitted artwork cannot be returned. Remember, we need your help to make this the best Junior Ranger badge ever.

Name _____
Phone Number _____

Continued from page 1

insight as to how forest conditions change over time after any prescribed or natural fires, and if specific fire and resource management objectives are met.

Bandelier Fire Management has thinned a 600 ft. wide corridor along the northern, eastern, and western boundaries of the Project Area. This includes the portions of State Highway 4 and FS Road 289 (Dome Road) that border the Project Area. All of the cut materials were either pile-burned or removed. The reduced fuel loading in these areas will help contain the fire within the project area boundaries. Additionally, we have prepared trails and cut firelines inside the project area to help with fire control.

A prescribed fire plan for this project area has been written and approved. All compliance requirements for NEPA and the State Historic Preservation Office are completed. A weather station was set up adjacent to the burn unit to measure rainfall and other environmental conditions in the area.

Firefighter and public safety is the number one priority when conducting any fire management operation in Bandelier. Specific areas of concern identified in the Upper Frijoles Project Area 9 prescribed burn plan include, but are not limited to, visitor and firefighter safety and smoke impacts to roadways. Smoke may be present along roadways during and just after the burn. It will be

monitored and staff will be available to direct traffic. Traffic delays and limited road closures due to smoke are anticipated and could occur for the duration of the project. Smoke emissions will be managed in accordance with New Mexico Environment Department - Air Quality Bureau regulations. All recreation areas in the Upper Frijoles area of the Monument (including the cross-country ski trails and Cerro Grande) will be closed during ignition and periods of active fire spread.

Firefighters will be working along the roadways. Commuters should allow extra time and expect to drive slowly on this segment of State Highway 4.

Other options, such as manual and mechanical thinning as well as no action, were considered. However, because of the steep, uneven terrain, prescribed fire was considered the safest for personnel involved in the project. It is also the most cost efficient method.

If you have questions, call the Bandelier Fire Management Office at 505-662-7065 x 28, or email us at BAND_Fire_Comments@nps.gov.

A Public meeting will be held at the Mesa Public Library in Los Alamos on Tuesday, August 28th from 5 PM to 7 PM. A similar meeting in White Rock at the Town Hall will be on Thursday, August 30th from 5 PM to 7 PM. The meetings will be informal and park officials will be present to answer questions or gather

comments regarding this project, or Bandelier's fire program in general.



Important information is collected from areas before and after a prescribed burn is done. This data helps determine whether the burn was effective.

Obtaining a Job in Wildland Fire

The Basics

You must be a United States citizen and at least 18 years of age in order to work as a firefighter for the National Park Service. You can find other information on employment with the National Park Service in Fire and Aviation at <http://www.nps.gov/fire>

*Click on the **Employment** link at the top of the page

*From there you can search for jobs under **Job Search** which has customized searches for National Park Service fire-related jobs listed in USAJobs.

You will also find information on how to apply, the application forms, a brief description of the fire positions and a link to frequently asked questions.

For seasonal firefighting jobs, also try:

Fire Integrated Recruitment Employment Systems (FIRES):

*Under this hiring process you can select up to seven different locations within the Department of the Interior using one application.

*To apply using FIRES go to: <http://www.firejobs.doi.gov/index.php?action=home>.

USAJOBS: <http://www.usajobs.opm.gov/>

*This website allows you to search for fire jobs as well as other federal jobs across multiple agencies and geographic areas. Each job announcement will have specific information on how and where to apply as well as who to contact if you have questions.

Physical Fitness Requirements for Firefighters

There are certain physical requirements that every wildland firefighter is required to meet at the start of each season. The "Work Capacity Test" is required by every agency/bureau before an Incident Qualification Card (Red Card) can be issued. You can find information on the Work Capacity Test at: http://www.nps.gov/fire/developmental/dev_workcapacity.cfm. Depending on the type of crew, there may be additional physical requirements. It is recommended that you find out if there are any additional standards and what they are so you can prepare in the off season. Contact the specific location where you would like to work for additional requirements.

If you are entering into the wildland fire arena without any previous experience there are some basic classes that you may be able to complete locally which will increase your chances of being hired. The basic fire courses are S-130 Firefighter Training and S-190 Introduction to Wildland Fire Behavior. Contact your local Park Service, Forest Service, State Forestry office or Community College to see if they offer any of these classes.



Defensible Space:

Doing your part to reduce the risk to your home during a wildfire

Defensible space is the area around a structure that has been landscaped to reduce fire danger. This space reduces the risk that fire will spread to the structure, and also provides firefighters a relatively safe area in which to work while protecting the structure

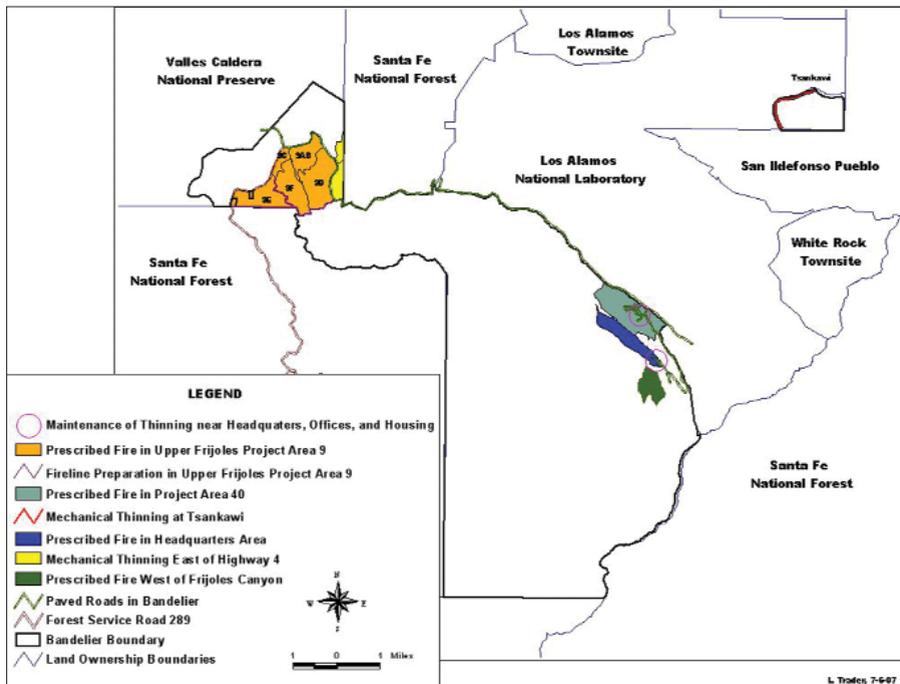
It is recommended that the defensible space around a structure extend for at least 100 feet (30 meters) in all directions. This area need not be devoid of vegetation, but plants should be selected, trimmed, spaced and irrigated in such a way to minimize the fuel available to the fire and hamper the spread of the fire.

See these websites (<http://www.lac-nm.us> or www.firewise.org) for more information on defensible space, firewise communities and what you can do to help local firefighters.



Adequate defensible space around a home can make all the difference in a wildfire.

Review of 2007 and 2008 Fire and Fuels Management Plans



A map of proposed fire management activities within Bandelier National Monument. NPS Collection

Ecological Restoration at Bandelier

Bandelier hopes to begin an intensive ecological restoration program this fall in the piñon and juniper woodlands which currently occupy approximately 10,000 acres within the park. Domestic livestock grazing and fire suppression since the late 1880's transformed what were thought to have been fire-dependent grassland and savanna communities into dense woodlands choked with young tree growth. As the soil stabilizing, grassy ground cover was suppressed by these trees, soil erosion greatly increased. This soil erosion threatens the stability of the archeological resources found in these woodlands. Research in the early 1990's indicated that tree densities exceeded 1000 stems per hectare, and over 75% of these were less than 100 years in age. Herbaceous ground cover was less than 10%, with exposed soils dominating many sites. The exposed soils and sparse understory vegetation were especially vulnerable to erosion during intense summer thunderstorm events. The condition and status of the park's pre-historic cultural resources suggested over 90% of archeological sites were being adversely impacted by soil erosion. Development and testing of restoration methods such as overstory thinning, slash mulching, and supplemental seeding techniques began. This research suggested that the thinning, slash mulch treatment resulted in at least a three-fold increase in the soil stabilizing herbaceous (grass and forb) cover after only three years and erosion was 100 times less than for untreated areas. The thinning, slash mulch treatment will be utilized throughout the piñon and juniper woodlands within Bandelier.

During the fifteen year period since these restoration studies were initiated the understanding of the woodland systems at Bandelier has continued to evolve. Researchers believe that the woodlands were formerly a complicated mosaic of piñon-juniper woodlands, juniper savannas, pine savannas, and grass-forb-shrub communities. Surface fires were probably common in Ponderosa Pine and associated grass-shrub types, but also burned into the denser piñon-juniper patches as small crown fires. The role of fire as a natural disturbance process in woodlands is being evaluated in the context of using prescribed fire to maintain savanna-like structures after applying these one-time mechanical restoration treatments. The one-time ecological restoration treatment and fire will be key elements of restoring these woodlands to healthy, sustainable plant communities.

Using the natural landscape patterns as a guide, the thinning and slash/mulching efforts will focus on younger trees (generally less than 8 inches in diameter) that grow on more productive sites where deeper soils can support robust grass, forb, and shrub cover. Work will initially begin in the Tsankawi unit of the park then expand to other locations. These treated sites will then be allowed to renew, and with sufficient grass cover, natural or prescribed fires could be used to reduce young tree regrowth and to maintain these open grasslands and savannas.

For further information on the ecological restoration program at Bandelier, call John Mack in the Monument's Resource Management Division at (505) 672-3861 x 540.

Project	Status
Maintenance of the previously thinned areas around Bandelier Headquarters and park housing and offices	The project will be on-going through the summer of 2007.
Prescribed fire and fireline construction in Upper Frijoles Project Area 9	Wet weather and high elevations made fuels in this area too wet to be burned in Fall of 2006. With continued monitoring, this project will hopefully be accomplished in the late summer/fall of 2007. The total acreage for this unit is just over 1,500 with all sub-units. Construction of some firelines, mostly on the southern unit boundary will be completed prior to the prescribed burn.
563 acre prescribed burn in Project Area 40 near the mesa housing, amphitheater and Juniper Campground	67 acres of this project were burned in November, 2006. Fuel and weather conditions were not favorable so the burn was cancelled after one day. The remainder of the unit may be burned in late summer/fall of 2007.
Mechanical thinning along Highway 4 in the detached Tsankawi unit of the Monument	62 acres, to be thinned primarily of drought/bug killed pinyon and juniper. Scheduled for July/August 2007.
Headquarters area prescribed burn	120 acre burn in Frijoles Canyon around the Visitor Center, Cottonwood picnic area, the main loop trail, Alcove House and Bandelier Headquarters. Oct 2007-Sept 2008.
Mechanical thinning east of Highway 4 in Sandoval County just beyond the Los Alamos County line	113 acres of mixed conifer will be thinned between Highway 4 and the Santa Fe National Forest boundary with Bandelier. Could begin as soon as Fall 2007.
Prescribed fire on 150 acres on the mesa west of Frijoles Canyon and Bandelier Headquarters	Prescribed fire on 150 acres on the mesa west of Frijoles Canyon and Bandelier Headquarters

Special Meetings Planned

Learn more about the prescribed burn planned for this fall/winter and ask questions about Bandelier's Fire Program.

**When and Where: Tuesday, August 28th from 5 PM to 7 PM
Mesa Public Library, Los Alamos, NM**

**Thursday, August 30th from 5 PM to 7 PM
White Rock Town Hall, White Rock, NM**

Bring your questions and your concerns. We want to share our ideas and hear what you think.

For more information call 505-662-7065 x 28 or log onto the Bandelier website at www.nps.gov/band.