



Kudos to the Structural Fire Program

Did you know that firefighters at Sequoia and Kings Canyon National Parks respond to structural fires, too? There are hundreds of park structures protected by our structural fire engine companies as well as the private, residential structures in the community of Wilsonia and overheated vehicles on Generals Highway.



NPS Photo by Malanie Lloyd

Structural fire company members extinguish a fire ignited in a training vehicle which can be ignited repetitively during practice.

A structural fire training facility was completed in March. (See photos above and above right.) A large shipping container simulates a building in which a fire is ignited to allow company members to practice the skills needed to navigate a burning building to save lives and extinguish fire. Similarly, a “vehicle” fitted with propane burners can be ignited to simulate a vehicle fire.

We can now provide cost effective training simulating structure fires. This is contributing to our ability to increase staffing and expand our capability to respond quickly when needed. The growing program has reached across all park divisions with employees participating from all areas of the parks.



Structural fire company members train with full gear in the new “live fire” training facility. A fire is ignited in a large shipping container and extinguished during practice.

NPS Photo by Malanie Lloyd

The progress made in this program over the last several years was recognized by the National Park Service national office. Our parks’ received the 2013 Superior Achievement Award for our efforts to “develop and maintain an effective and safe structural fire suppression program”. (See photo below.)



NPS Photo by Malanie Lloyd

Park employees instrumental in building our structural fire program proudly accept the Superior Achievement award which included a silver fire ax.

Project Locations for 2014

The parks are planning **nine projects** this year totaling up to **2,941 acres**. The projects are designed to improve protection of the parks and our neighbors, and restore or maintain forest health. The timing and completion of burns depends on smoke and air quality concerns, local and national fire activity, availability of firefighters, funding, fuel moisture, and weather. Mechanical treatments remove fuel without the use of fire, generally by thinning out small trees and brush.

1 Grant Grove Mechanical

(25 acres)
Summer mechanical

2 Lookout Mechanical

(4 acres)
Summer mechanical

3 Valley Floor

(45 acres)
Completed in March
Prescribed fire

4 North Boundary

(248 acres)
Prescribed fire

5 Swale West

(191 acres)
Prescribed fire

6 Goliath

(769 acres)
Prescribed fire

7 Bear Hill

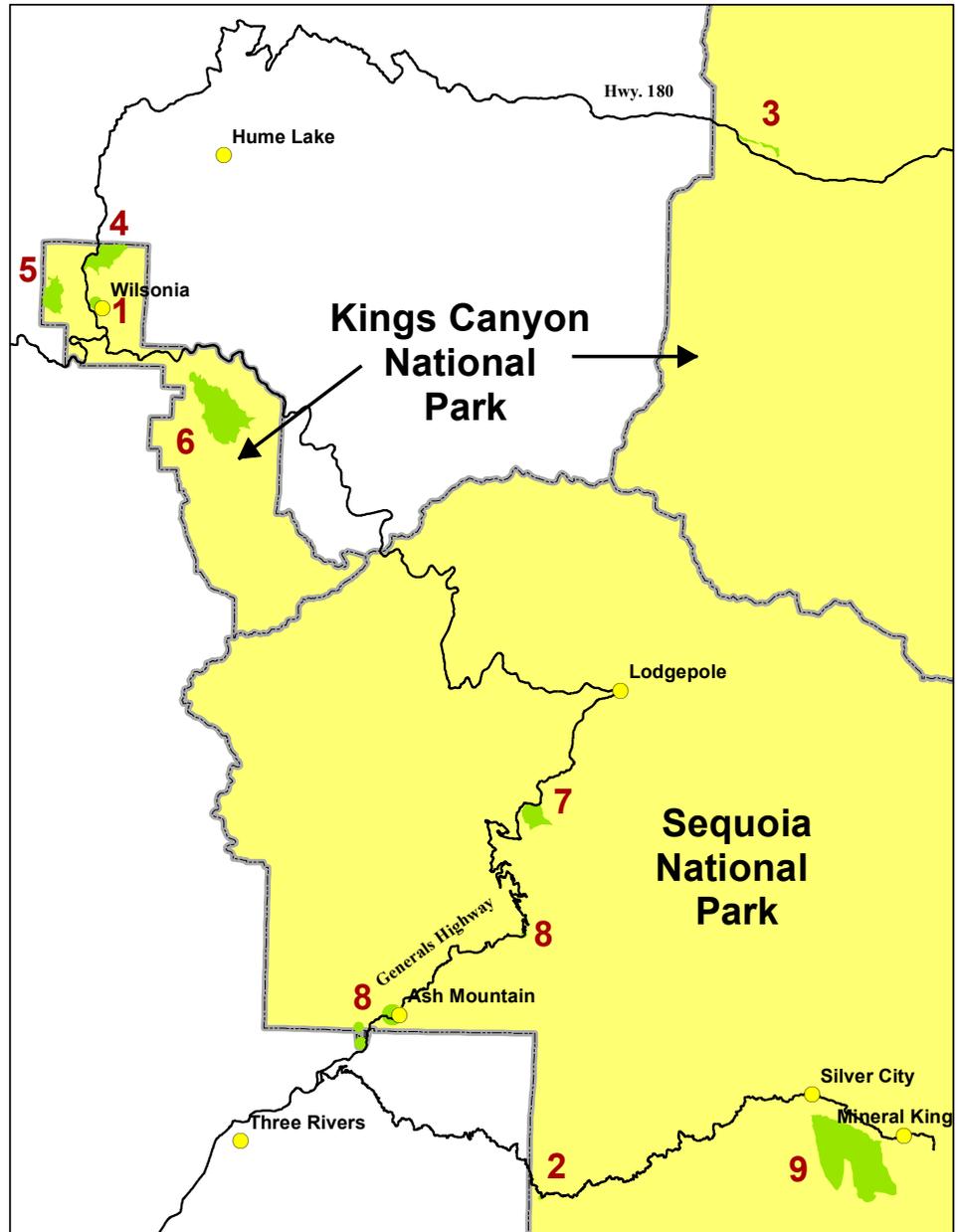
(149 acres)
Prescribed fire

8 Ash Mountain/ Hospital Rock

(25 acres)
Prescribed fire

9 Mosquito

(1,485 acres)
Prescribed fire



What About Unplanned Fires?

Lightning fires and human-caused fires are unplanned events. National Park Service crews are trained to respond to these situations. When necessary, the parks shift priorities from planned projects to respond to unplanned fires.

Long-Term Drought and its Impacts

We all know that the southern Sierra Nevada has been experiencing a deep, three-year drought. Its impacts on municipal water supplies and California's agriculture industry have been high-profile news.

The effects of drought are impacting wildland fire. A number of wildfires have burned across the state this past winter, a time that is generally considered out of "fire season".

This drought is more than a historic curiosity; its effects are being felt in Sequoia and Kings Canyon National Parks now. River levels are lower than even the "old-timers" can remember and wells in the area are going dry. While recent rains have provided welcome relief, they have not yet been sufficient to substantially improve the seasonal outlook.

Plants, animals, and ecosystems are being affected as well. The effects of the drought on our foothill deciduous trees, particularly the blue oaks and buckeye, were already evident during the summer of 2013 when they began to lose their leaves prematurely at the height of summer.



NPS Photo by Tony Caprio

Ponderosa pine tree in Cedar Grove under attack by pine beetles. Trees under drought stress are vulnerable to beetle attack. Pitch is exuded by the tree in an attempt to prevent beetle entry.



NPS Photo by Tony Caprio

These browning interior live oaks in the parks are experiencing drought stress.

While blue oaks are highly drought resistant and will likely survive, there is heightened concern that interior live oaks will begin to die off. (See photo above.) The iconic red-barked manzanita is also experiencing yellowing and dying back.

The parks' delayed a prescribed fire scheduled for this spring in the Cedar Grove area called "Lewis Camp" due to drought related mortality over the last several years. (See photo at left.)

Fire managers are receiving questions as fire season approaches such as "How will the 2014 prescribed fire program be different in light of the current drought?". As always, the highest priority will be protecting human life and property. Our crews plan to be ready to provide high levels of fire protection with our state, federal, and local partners.

Anticipating a severe 2014 fire season, fire managers are mitigating the effects of the drought by 1) starting our prescribed fire program a month earlier while fuel moistures are higher and 2) focusing burns in maintenance areas with lower fuel loads unless late season moisture is received.

Long-Term Drought and its Impacts (continued)

As always, we consider a variety of factors to determine whether or not to ignite a prescribed fire. These include smoke and air quality concerns, local and national fire activity, availability of firefighters, funding, fuel moisture, and weather.



NPS Photo

Fire effects crew member dries a live fuel sample to calculate its moisture percentage. This determines whether fuel moistures are within the prescription window.

In addition to these factors, we review the burn plan prepared in advance for each unit. Central to this document is the identification of a prescription window which gives prescribed fire its name. The prescription window defines both upper and lower limits for the conditions of fuel moisture, temperature, relative humidity, and winds under which it is both safe to burn and will be successful at meeting our goals.

Important to this discussion are fuel moistures. During the weeks preceding the ignition of a unit, sample fuels are dried in an oven to determine the percent of moisture in the fuel. (See photo at above.) This helps to ensure that prescribed fires are only ignited under desired conditions. During the execution of every prescribed fire, weather information is collected hourly at a minimum. This allows fire managers determine if the fire is burning within the prescription window and to respond to changing conditions. (See photo at right.)

Given the drought, early spring fuel moistures are unseasonably low. The unfolding of the remaining precipitation this spring will drive to what degree the parks will experience conditions desirable for prescribed fires.

The parks use many sources of information to help adapt our program and mitigate risks. In addition to historical information and data gleaned from natural sources such as tree rings and soil cores, the parks collect weather and air quality data. Analyzing this data and comparing it to the past, when possible, can help frame the current drought in a historical context. From the long-term perspective, the giant sequoias and the southern Sierra Nevada ecosystems in general, have experienced similar drought conditions in the past.

As we move into the 2014 fire season, managers encourage all of us who live, work, or visit these parks to use extra caution to prevent unwanted wildfires.



NPS Photo

A firefighter collects hourly weather on a prescribed fire to provide fire managers with current weather conditions.

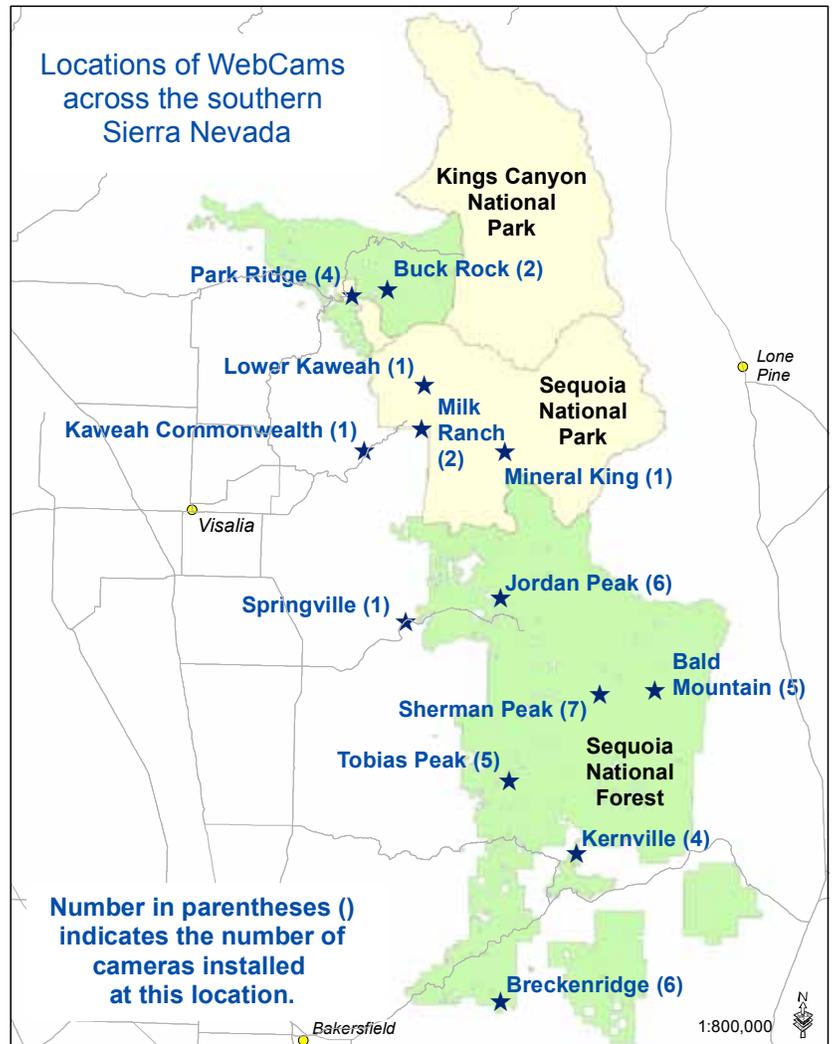
Online Web Cams Show Smoke in Real Time

If you have ever been curious to view smoke as it rises from fires in the southern Sierra Nevada in real time, the Sierra Wildland Fire Reporting System (SWFRS), website is for you (<http://sierrafire.cr.usgs.gov/>).

There are 45 web cams deployed across the area linked to this website. (See map.) While not all fires can be seen via web cam, many of the larger ones can be observed from one or several cameras. Images captured every five minutes during daylight hours from most of the cameras allow you to watch events unfold.

This past January, the Soda Fire ignited in the Kern drainage about 65 miles north of Lake Isabella on the Sequoia National Forest. The Bald Mountain #1 web cam captured its first hours on January 13. The first photo and web link (back page), captured at 2:24 PM, shows a small smoke column just below the arrow. If you move to earlier images (click on the “<” symbol to the left of the time stamp when viewing online), you can see the first visible smoke in the 2:02 p.m. image. Several days later on January 18 at 12:51 p.m. (second photo and web link on back page), this camera captured an impressive image showing the increased smoke column.

The Soda Fire grew about 200 acres on January 18 and reached a total of 1,274 acres by the end of January. Fire behavior on this unseasonable January fire was beneficial with low-intensity fire crawling its way across the ground consistent with historical fire behavior before fire suppression in the early 1900s.



You can find the SWFRS website at <http://sierrafire.cr.usgs.gov/>; just follow the Web Cams link.

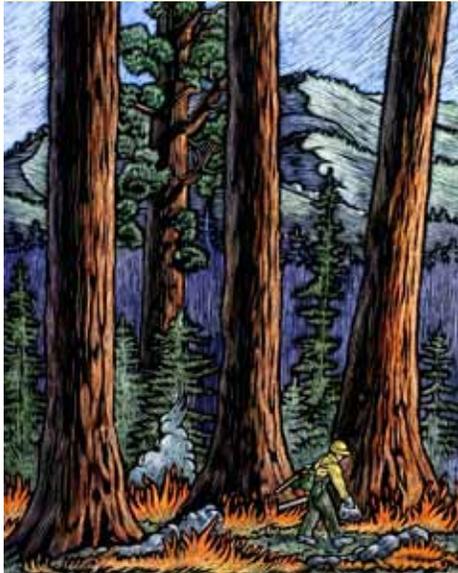
Note: Web cams are generally located on mountaintops which become inaccessible in winter. They often suffer from snowload and winter storms and fail to upload images, get physically jostled and no longer aim where intended or the lenses become obscured with snow and ice. As the sites become accessible in spring (which arrives late at 8,000 feet in elevation!), they are maintained for the upcoming fire season.



National Park Service
U.S. Department of the Interior

Sequoia and Kings Canyon National Parks

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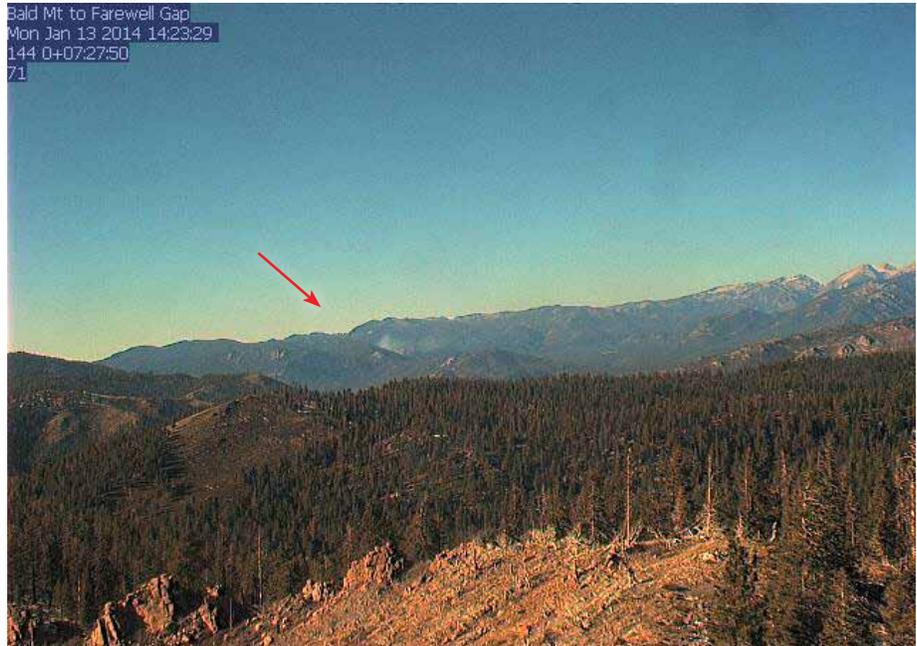
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For more information
[www.nps.gov/seki/naturescience/
fire.htm](http://www.nps.gov/seki/naturescience/fire.htm)

Contact us for questions,
comments, or requests to
be added to this email list.



Bald Mt to Farewell Gap
Mon Jan 13 2014 14:23:29
144 0+07:27:50
71

Soda fire smoke in the background in Sequoia National Forest on the day it was discovered, January 13, at 2:24 p.m.

See [this photo](#) on the SWFRS website.



Bald Mt to Farewell Gap
Sat Jan 18 2014 13:22:48
182 0+06:27:37
71 Soda Fire

Soda fire smoke displaying an impressive smoke column on January 18 at 1:23 p.m. The fire grew about 200 acres on this day.

See [this photo](#) on the SWFRS website.