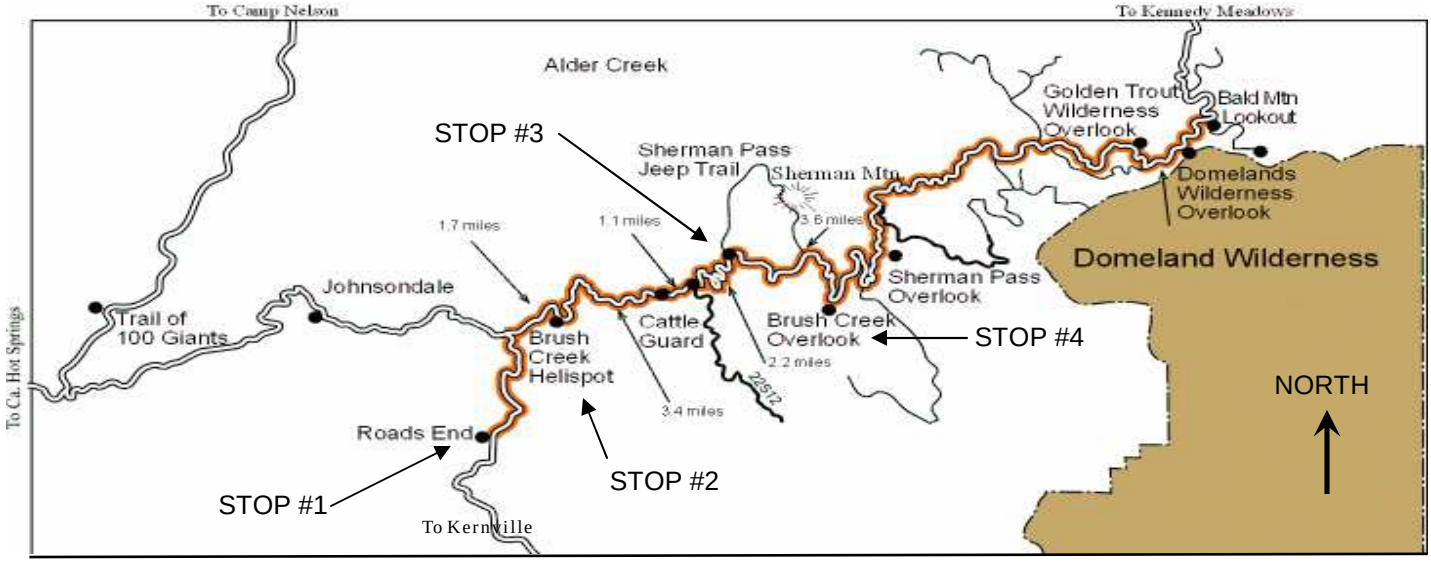
# McNally Fire of 2002

## Auto Tour on the Sequoia National Forest




**This brochure presents a self-guided tour to view the aftermath of fire and the regrowth of the forest.**

In 2002, a carelessly built campfire resulted in the largest and most costly forest fire in the history of the Sequoia National Forest. Named the McNally Fire, it burned for 37 days, scorched 150,700 acres, and was twice as large as any fire previously recorded in this area.

There are four (4) stops along the route. Each is marked by a green post inset with a pine cone symbol. Set your trip odometer to zero at #1 (Road's End). Other points of interest, along the way, are identified by mileage (odometer) readings.

### Safety Message:

The tour route follows narrow, steep, and mountainous terrain, drive cautiously.

Be sure to move your vehicle off the road when stopping.

Do not block the roadway.

Be aware of other travelers at all times.

Make sure you have water and a full tank of gas, there are no gas stations or convenience stores on the route.

This picture was taken, just south of Road's End Resort, approximately one hour after the fire started.


USDA United States Department of Agriculture

Forest Service
Pacific Southwest Region
www.fs.fed.us/r5/

Sequoia National Forest
www.fs.fed.us/r5/sequoia/

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Set your trip odometer to 0.0 miles

## # 1
## The Fire Begins

**Roads End:**

On July 21, 2002, a camper built an illegal campfire just below the Road's End Resort. A 20-mile-per-hour wind carried the fire into low hanging tree branches. The flames quickly climbed into the treetops and within moments jumped the Kern River to the west and Mountain Highway 99 to the east.

In the first hour historic Road's End Resort, built by Earl Pascoe in the early 1900s, was destroyed. This original pack station, which was once literally the end of the road, served hunters and fishermen heading to the backcountry. More recently the resort served as a shady retreat for visitors with rustic cabins and a general store.

Increased use of public lands has raised the need to more actively manage recreational activities to reduce environmental damage from wildfires and other problems.

Permits are one way that the Forest Service can improve visitors' environmental awareness and prevent damage to the natural resource.

NOTE: Fire permits are required for all campfires, barbeques, and stoves used in the Sequoia National Forest. All visitors must check fire restrictions every day before use.

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Trip Odometer: 3.6 miles

**Sherman Pass Road:**

For the next 12 miles the road travels up Brush Creek drainage. 26,000 acres were burned in this area on the second day. This was the worst day of the 37 day siege.

### Good from Black

Fire can benefit chaparral and conifer forests common to the Sequoia National Forest, if the fire does not burn too hot, too often or in the wrong season. Periodic, low intensity fires; recycle nutrients, rejuvenate plants, and open up areas for wildflowers to germinate and regenerate. Stump sprouting species quickly cover their burnt trunks and limbs with healthy new branches and leaves. Frequent low-intensity fires help eliminate the build up of fuel from dead plant material and old woody branches, reducing the risk of catastrophic fire.

Trip Odometer: 5.3 miles

## # 2

**Brush Creek Helispot:**

The Forest Service maintains many helispots across the Sequoia National Forest for various helicopter operations. These whirling workhorses have replaced most pack stock in forest management work in remote mountainous terrain.

During the McNally Fire helicopters dumped countless loads of water and fire retardant, delivered crews and supplies to the fire line, and carried fire experts on reconnaissance missions. The fire threatened the ancient giant sequoia trees, burning within less than a mile of the Packsaddle Grove. Without aerial support, this grove and others may have been consumed in this catastrophic fire.

## When a Fire Burns Too Hot!

Trees and vegetation adapted to survive low intensity fires die, leaving soils and streams vulnerable to erosion and silting. Pines, such as the gray pine, must grow from seed and it will be many years before they will be present again. If native vegetation is destroyed, invasive species such as cheat grass can monopolize the niche and prevent that species from re-establishing itself by monopolizing the available space, nutrients and moisture.

**Trip Odometer: 8.7 miles**

**Cattle guard:**

Traditionally cattle ranchers have relied on this area for summer grazing. When grasses in the valley dry up in late spring ranchers push their herds into the high country where grass is still plentiful. Two of these areas remained closed to grazing after the fire to give the grasses a chance to re-establish on the slopes. This rest from grazing helps to protect the remaining topsoil from washing into the creeks.

Other management tactics were used to help keep topsoil on the slopes for plants and out of streams and creeks. Rice straw was shot onto slopes from the roadside. Trees killed during the fire were purposely felled across slopes to slow runoff from snow and rain. Many new culverts and drains have been installed to help with the increased runoff from storms.

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**Trip Odometer: 9.6 miles**

**Cherry Hill Road Turnoff to Horse Meadow:**

Before the McNally Fire in 2002 the forest had not burned from this point to Bald Mountain Lookout in more than 120 years. All fires had been suppressed, causing an enormous amount of fuel accumulation. Smaller shade tolerant trees and shrubs that would have been removed during naturally occurring, low intensity fires grew next to large trees. During the McNally fire, these smaller trees and schrubs formed “fuel ladders” lifting flames from the ground level into limbs and treetops of the tall pines. Dead limbs and needles had accumulated in unnatural amounts on the forest floor. Accumulation of fuel predisposes many of the nation’s forests to catastrophic fires like the McNally. Fire researchers and forest managers hypothesize that this is one important reason for the unprecedented increase of catastrophic wildfires across the nation.

**Trip Odometer: 11.7**

**# 3**

**Sherman Pass Jeep Road:**

As you drive up the road, notice Ponderosa pines begin to replace the gray pines. Under normal environmental conditions the absence of low hanging branches and thick bark insulate mature Ponderosa pines from heat and flames that burn along the ground. However the overgrown condition of the forest allowed fire to travel through the tops of the trees as well as on the ground, overwhelming the tree's natural fire resistance.

The severity of the fire caused 90 to 100 % mortality to much of the forest for the next several miles. Few trees escaped. Those that were not consumed in the flames, died shortly after from heat damage to the root systems, stems and trunks. Only a few isolated patches of trees survived, naturally sheltered in depressions and sheltered draws.

**Trip Odometer: 14.6**

Natural terrain and fire breaks created by fire crews helped control the intensity.

**Mixed Conifer Belt:**

Increases in elevation create environmental conditions that favor different species of conifers. White fir is now seen in the stands of Ponderosa pine. The short needles on firs do not burn with the intensity of pines with longer needles. Firs tend to shade the ground underneath them so shrubs and under story plants do not grow as well as they do under pines. As the vegetation begins to thin fire does not spread as quickly.

**Trip Odometer: 15.2**

**# 4**

**Brush Creek Overlook:**

This area served as a collection point for trees that were removed for forest restoration and roadway safety reasons. The standing dead trees were sold to Sierra Forest Products in Terra Bella. From this overlook observe the extent and intensity of the fire. Most of what you see was burned on the second day.

## The Fire Slows

As the road climbs to higher elevations Red fir is favored in the more extreme climate. The growing season is shorter and the cooler temperatures force trees to grow with more open spacing. These factors create less fuel for fire. As the fire reached these highest elevations, it smoldered and crept along the ground.

The fire approached the ridgelines toward the end of the second day. In the evening hours humidity is higher and temperatures are lower, helping to slow the fire. Fire burns fastest traveling up slope and tends to slow at the top of a ridge, giving firefighters a chance for control. The change in environmental conditions, vegetation and fire behavior helped to slow the fire at the end of the second day.

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**Trip Odometer: 19.0**

**Sherman Pass Vista:**

The elevation at this vista is 9,200 feet.

When the fire reached this area, it became a lower priority for fire fighters. They could now turn their attention toward the west side where the fire was threatening Giant Sequoia groves.

Standing at the vista looking north/northeast, the terrain contains more green. The fire proceeded down this ridge at a lower rate. The gently rolling terrain and the fire breaks created by fire crews helped to control the intensity of the fire creating a more beneficial mosaic pattern.

Looking north and east, compare the southern end of Beach Ridge. High winds combined with steep slopes caused the fire to burn with greater intensity.

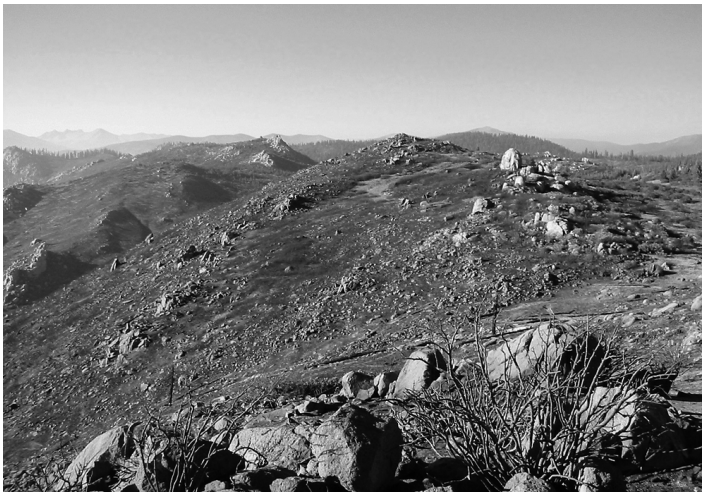
**Trip Odometer: 26.7**

**Golden Trout Wilderness:**

For the next mile along this stretch, views to the north expose portions of the Golden Trout Wilderness (GTW). This wilderness was named for the brightly colored native trout that is the California State fish. Two subspecies are also found in the GTW; the Little Kern Golden Trout (a federally listed threatened species) and the South Fork Kern Golden Trout.

Elevations in the GTW range from 4,700 feet to 12,432 feet, (the highest point on the forest). The highest elevations are above timberline seen as barren, light colored peaks and ridges in the distance.

In early August, the McNally Fire burned into the southern tip of the Golden Trout Wilderness.



**Trip Odometer: 28.0**

**Domeland Wilderness:**

Looking south (along the next 1/2 mile), you get a glimpse of portions of the Domeland Wilderness through the trees. The spectacular rock outcrops provide evidence of the fiery origins of the Sierra Nevada and the power of erosion.

Elevations within this wilderness range from 3,000 in the southern end to 9,997 feet near the northern end. Sirretta Peak, to the north, is the highest peak. In the heart of the wilderness is the Domelands with their magnificent granite domes. The domes began as molten magma many miles below the surface of the earth, rose to the earth's surface and were sculpted by the erosion forces of temperature and water.

Prior to the McNally Fire, the largest fire in the area was the Manter Fire. The Manter Fire started in July of 2000 in the Domeland Wilderness area. It burned 74, 439 acres on the Kern Plateau and cost $16 million to suppress. Two million dollars were requested for long-term restoration of the area burned by this fire.

**Trip Odometer: 29.5**

**Bald Mountain Turnout:**

The McNally fire exceeded the Manter by twice the acreage, burning twice as long as the Manter and costing over 3.5 times to suppress and rehabilitate. Both fires started in mid July during extreme fire conditions.

In recent years the occurrence and the magnitude of wildfires has increased so significantly that fire experts and forest managers are concerned for the future existence of these treasured natural resources. The Healthy Forest Initiative is a nationwide effort to restore forest and rangeland health and protect communities from catastrophic wildland fires.

**Bald Mountain Lookout Tower:**

The fire and communication lookout built in 1954 is located at the end of this two-mile, one-lane dirt road. The route is not recommended for motor homes or vehicles pulling trailers. Visitors are welcome daily from 8:00 am to 6:00 pm. Four people are allowed in the tower at one time.

The tower is at 9,430 feet elevation above sea level. Views from the tower include: Sequoia National Forest; Inyo National Forest; Golden Trout, Domeland and South Sierra Wilderness Areas; Kern Plateau; Kennedy Meadows; and Mt. Whitney.

**This ends the Auto Tour.**

# Frequently asked questions:

## Can in happen again?

Extreme environmental conditions necessary for devastating wildfires like the Manter or McNally fires usually occur several times a summer in the southern Sierra Nevada region. Severe seasonal drought is not unusual. Forests that have not experienced periodic fires, or are not being managed actively to provide adequate tree spacing and removal of smaller trees and brush, are especially susceptible.

More than one hundred years of aggressive fire suppression has resulted in forests with heavy fuel loads, or lots of stuff just itching to burn. Some forests have experienced "species shifts." Shade tolerant trees such as white fir and incense cedar grow in the shadows of larger trees eventually out-competing shade intolerant species such as pine and giant sequoia. The results are forests with more smaller trees growing closer together.

## What were the costs of the fire?

Total suppression costs were approximately $58,000,000. About $3,500,000 has been spent on emergency rehabilitation. Several million more will be requested for long-term restoration of the fire area.

## What is being done to prevent catastrophic fires in the future?

The Forest Service along with other agencies managing large tracts of forested land are working to prevent such catastrophic fires through fuel and vegetation treatments and by reintroducing natural fire.

## How did the fire impact wildlife?

Most large animals are able to escape the direct impacts of a wildfire. Rodent populations were expected to be down the first year after the fire, however most small mammals reproduce very quickly and are expected to respond positively to the new food supply from forbs and sprouts.

Researchers are studying the impacts of the Manter and McNally fires on birds such as woodpeckers and bluebirds. Birds that use dead trees for food sources and nesting cavities, increased while birds that rely on dense forest canopy declined.

Some rare and unique species are being studied. The California spotted owl is continuing to persist in islands of unburned or lightly burned areas of the forest. The Pacific fisher, a rare forest carnivore, is being tracked to determine if it continues to utilize the area.

Other species that are being studied include the Northern goshawk, the American marten, and many of the prey species that these larger animals utilize.

## Can you address erosion and it's effects?

Within the fire area there are 1,758 miles of streams. In large areas of moderate to high severity burns, there is a great loss of groundcover and vegetation. The high heat of wildfires melts the plant resins and waxes in the groundcover and vegetation and deposits the melted resins and waxes in the soil. This creates unstable soils that resist water (hydrophobic soils), increasing erosion during storms. These events can cause streams to change during storms or spring runoff.

The effects on soil within the fire perimeter were 52% at the moderate to high severity, with 33% at low severity, and 15% unburned. Water yields have the potential to increase by 10 times in most highly impacted watersheds. Aquatic/fisheries impacts in the North Fork Kern River drainage include expected sedimentation increases up to 870% in some watersheds.


## Four Threats to the Future:

**Fire and Fuels,**
**Loss of Open Space,**
**Invasive Species, and**
**Unmanaged Recreation**

threaten the health of the nation's forests. As a nation we derive countless benefits from healthy forests and we can't imagine life without them. Catastrophic fires such as the McNally Fire, the largest wildfire in the history of the Sequoia National Forest, can be prevented. This auto tour takes about 2.5 hours and travels through a portion of the burn area. Learn what the Forest Service is doing to ensure that future generations will have the benefits of healthy forests.

Development in California has consumed much of the available open space for outdoor recreational activities. More people are looking to the mountains, forests, rivers and lakes of the Sequoia National Forest to enjoy their favorite activities. The Kern River is less than an hours drive from Bakersfield and two hours drive from Southern California. These urban visitors, attracted to the natural beauty, are often unfamiliar of the dangers and vulnerabilities of these lands. Their activities often threaten the quality of the environment and resources they have come to enjoy.

## For further information please contact:

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**Please visit the**
**Sequoia National Forest website at:**
http://www.fs.fed.us/r5/sequoia/

**The National Interagency Fire Center at Boise, Idaho is a good place to link to fire information:**
http://www.nifc.gov/

**The Fire Information Cache at Sequoia and Kings Canyon National Parks is a great link to lots of information about fire ecology:**
http://www.nps.gov/seki/fire/indxfire.htm