USDA-FOREST SERVICE
FS-2500-8 (6/06)

Date of Report: July 5, 2007

Executive Summary
Goldledge Fire
Sequoia National Forest
Kernville Ranger District

The Goldledge Fire burned approximately 4,196 acres north of Kernville in the Goldledge Creek watershed. Approximately, 3117 acres burned with low burn severity, 811 acres burned with moderate burn severity, and 205 acres burned with high burn severity. Another 170 acres of unburned area is within the perimeter of the fire. Several values and resources that were evaluated include the Goldledge Campground, 2.8 miles of road managed by the Southern California Edison, including 2 road channel crossings, several penstock aqueduct structures (flumes), a power line, a Forest Service corral, and a livestock grazing area in the Goldledge drainage. A livestock grazing area in the Goldledge drainage has the highest erosion and sediment potential with estimated erosion rates of 8.0 to 10.2 tns/yr. Water discharge is expected to increase from 51.46 cfs/mi^2 to 56.31 cfs/mi^2. Tribulus terrestris (Puncture vine) was found at the fire base camp, which was located at the Camp 9 Campground, adjacent to Lake Isabella. There is a possibility that puncture vine has been introduced into the Goldledge drainage and could spread. If any weeds were introduced, they could take advantage of the disturbance associated with the fire and displace native vegetation, degrade habitat function, and lower ecosystem stability. Monitoring of the Puncture vine is proposed as a delayed assessment in April and May at a cost of $1,717.50. The total BAER assessment cost including the monitoring is $5,738.

There are no values or resources at risk from post-fire conditions within or downstream of the fire area. There are no treatments proposed.

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BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[ ] 2. Interim Report #____
[ ] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Goldledge B. Fire Number: CA-SQF-001317

C. State: CA D. County: Kern

E. Region: 05 F. Forest: Sequoia

G. District: Kern River H. Fire Incident Job Code: P5DG62

I. Date Fire Started: June 3, 2007 J. Date Fire Contained: 96% contained as June 29, 2007

K. Suppression Cost: $3,000,000 as of June 8, 2007

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): .10
2. Fireline seeded (miles):
3. Other (identify):

M. Watershed Number: 1803000104

N. Total Acres Burned: 4196

NFS Acres(X) Other Federal ( ) State ( ) Private ( )

O. Vegetation Types: Annual grass, low shrubs,chaparral and chamise at lower elevations. Fire burning into Jeffrey and lodgepole pine, mixed conifer forest.

P. Dominant Soils:
Livermore family (moderately deep, loamy, skeletal, mixed thermic Typic Haploxerolls,
Cieneba family (shallow, loamy, mixed, non-acid, thermic Typic Xerothent,
Chawanakee family (shallow, loamy, mixed, thermic, Dytric Xerochrept.

Q. Geologic Types: Predominantly granodiorite and metamorphic rocks from the Kernville Series including phyllite, quatzite, schist, marble, gniess and metavolcanic rocks.

R. Miles of Stream Channels by Order or Class:

STRORDR	Length
1	40.00
2	13.35
3	3.68
4	2.13
5	2.57

S. Transportation System

Trails: 0 miles Roads: 2.8 miles (non-system roads)

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 3177 (unburned/low) 811 (moderate) 205 (high)

B. Water-Repellent Soil (acres): 100

C. Soil Erosion Hazard Rating (acres):
3007 (low) 811 (moderate) 205 (high)

D. Erosion Potential: .4 tons/acre

E. Sediment Potential: 256 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5

B. Design Chance of Success, (percent): 99

C. Equivalent Design Recurrence Interval, (years): 2

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches):

F. Design Flow, (cubic feet / second/ square mile): 51.46

G. Estimated Reduction in Infiltration, (percent): 7

H. Adjusted Design Flow, (cfs per square mile): 56.31

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Goldledge Fire is approximately 4,196 acres and is located, approximately 8 miles north of Kernville on the east side of the Kern River. The fire area is drained by Goldledge Creek, an intermittant channel in the center of the fire, Corral Creek, a perennial channel on the south end of the fire and an unnamed ephemeral creek on the south end of the fire. The fire is located wholly within the Sequoia National Forest on National Forest System lands. The fire is bounded on the north by Salmon Creek, on the south by Corral Creek, on the west by Forest Highway 99 and on the east by Horse Meadow Campground and private land with structures.

The Goldledge Fire burned approximately 4,196, which includes 205 acres of high burn severity, 811 acres of moderate burn severity and 3177 acres of unburned to low burn severity. The areas burned with high and moderate burn severity are located mostly at lower elevations, in the center of Goldledge watershed, where slopes are generally less than 35%. Vegetation growing in these areas include Foothill pine, Interior live oak, Ceanothus Cuneatus (Buckbrush), annual grasses, Yucca and Buckwheat. Most of the higher elevation areas have slopes that exceed 60%, are very rocky and have vegetation that includes Ponderosa pine, Manzanita, Interior live oak and White fir and Cedar. One high elevation area with moderate burn severity is located in the southeast corner of the fire.

The Goldledge Campground, 2.8 miles of road managed by the Southern California Edison, including 2 road channel crossings, several penstock aquaduct structures (flumes), a power line, and a Forest Service corral are located within the fire perimeter. The Goldledge Campground is located on the west side of Forest Highway 99. The fire came up to the Forest Highway 99 on the east and did not affect the campground The campground is on somewhat high ground between the Kern River and Forest Highway 99 and should not be affected by post-fire conditions. Approximately 2.8 miles of road are located within the fire perimeter. These roads are native surface roads and do not cross any channels. The roads are designed for high clearance vehicles and are used to access the aquaduct by the power company and for range and fire suppression purposes. An aqueduct, which is buried underground, becomes exposed at 4 points along the western boundary of the fire. When the aqueduct is exposed, it is a concrete capped or an open structure, 5 feet to 6 feet above the channel and in some places 30 feet long across the channels that they span. A road/channel crossing is located across Forest Highway 99 and Goldledge Creek. The crossing is a 6 ft x 8 ft. concrete box concrete culvert that is capable of passing up to 200 cfs of flow based on regional curves (see Hydrology Report). The increased water yield is predicted to be 100 cfs. The road/channel crossing on Forest Highway 99 should be able to handle the larger flow. Corral Creek is a perennial

channel that has a road/channel crossing with a 48" culvert. This crossing has a concrete enforced high flow structure designed to pass flows over the road, if the culvert can not handle expected flows. Hydrologic analysis determined that the aqueduct, flumes and road/channel crossings, within the fire perimeter and downstream of the fire, should not be affected by the estimated increase in water yield (see Courter, 2007).

A Forest Service corral made of steel posts is located north of Goldledge Creek on flat ground. The area does not have any drainages and is not at risk from post-fire conditions. A powerline that supplies power to several facilities north of the fire area was damaged from the fire. Six poles were destroyed by the fire and have been replaced. Power was out for 2 days to the facilities north of the fire. The fire killed 18 cows that were grazing in the Gold Creek drainage under permit to the forest.

Soils in the area are derived from granodiorite and metamorphic rocks primarily from the Kernville Series. Soils are mostly shallow with a significant amount of rock ourcrop. Livermore, Cieneba and Chawanakee family soils are the predominate soil types in the area. The Livermore family soils, which are a moderately deep soil is the most productive soil in the area. Approximately, 3007 acres burned with low burn severity, 811 acres burned with moderate burn severity, and 205 acres burned with high burn severity. Another 170 acres of unburned area is within the perimeter of the fire. Most of the high burn severity is located in the Goldledge watershed above the aqueduct flume. The riparian vegetation in this area and 1 mile upstream has moderate to high burn severity. Soil transect data show that soil cover in the high burn severity area varies from 25% to 54%, with 30% (63 acres) of the high burn severity areas having soil cover below the regional standard and guideline thresholds of 50%. Most of the vegetation in this area was consumed in the fire and the 25% to 54% soil cover is attributable to rock fragments on the surface of the soil. Rock armor has developed on some of the steeper slopes, where fine soil particles have eroded off the site. Erosion and sediment modeling for the fire area shows that average erosion and sediment is approximately .4 tons/ac/yr, which is within the expected erosion and sedimentation rates for this area. Approximately 63 acres of high burn severity will have, approximately 600 tons of accelerated erosion and increased sediment, for up to 3 years while the area recovers through natural revegetation. This sediment will deposit in the Kern River and deposit into Lake Isabella.

The Goldledge Fire affected several watersheds including Corral Creek, Goldledge Creek and a small portion of Salmon Creek. Corral Creek watershed is approximately 15.25 square miles and 1.41 square miles of its watershed was affected (10.8%). Riparian vegetation is present and less then 1% was observed to be burnt in the fire. The remaining channels are ephemeral and intermittent. Water yield is projected to increase approximately 34% from normal pre-fire rainfall conditions. Goldledge Creek watershed is approximately 3.99 square miles with 3.04 square miles affected by the fire (76.1%). The watershed consists of intermittent and ephemeral channels with one perennial channel. These channels consist of large boulders and bedrock in the upper portions of the channel. Lower and flatter areas within the watershed contain finer materials with bedrock outcroppings in and around the channels. Water yield is expected to increase approximately 271% from normal pre-fire rainfall conditions. North Goldledge Watershed is approximately 2.15 square miles and 1.27 square miles has been affected by the fire (59%). The watershed contains one unnamed intermittent channel. The steeper portions of the watershed contain large boulder and bedrock outcroppings. Water yield is expected to increase approximately 128% from normal pre-fire rainfall conditions. West Goldledge watershed is approximately 0.27 square miles and 0.26 square miles has been affected by the fire (96%). The western border of the watershed contains Forest Highway 99 and the stream channels are all ephemeral. Increased water yield is predicted to be approximately 99% from

normal pre-fire rainfall conditions. Southwest Goldledge watershed is approximately 1.20 square miles and 0.41 square miles has been affected by the fire. The western boundary of the watershed contains Forest Highway 99. Stream channels are ephemeral. Increased water yield is predicted to be approximately 72% from normal pre-fire rainfall conditions. Salmon Creek watershed is the largest watershed at approximately 25.55 square miles and 0.03 square miles have been affected by the fire (0.01%). The Salmon Creek watershed runs along the northern and most of the eastern portions of the fires boundaries. Salmon creek is a perennial stream in the watershed and others channels are a mixture of intermittent and ephemeral streams. Increased water yield are predicted to be approximately 1.1% from pre-fire rainfall conditions. Values at risk have been analyzed within each watershed affected by the fire. Increased water yields in each of these watersheds should not have an impacted or warrant concern for the identified values at risk.

Noxious Weeds

During fire suppression activities Tribulus terrestris (Puncture vine) was found at the fire base camp, which was located at Camp 9, near Lake Isabella. The puncture vine was removed from where it was observed. It is possible that vehicles traveling from the base camp to the roads in the fire area could have transported seed from the source at Camp 9. There is a possibility that puncture vine has been introduced into the Goldledge drainage and could spread. If any weeds were introduced, they could take advantage of the disturbance associated with the fire and displace native vegetation, degrade habitat function, lower ecosystem stability. No other invasive noxious weed populations were observed within the burn area or along the access roads outside of the burn area.

B. Emergency Treatment Objectives:

There is no proposed treatment in the fire area.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land ___ % Channel ___ % Roads/Trails ___ % Protection/Safety ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads/Trails			
Protection/Safety			

E. Cost of No-Action (Including Loss):

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

[x] Hydrology	[x] Soils	[x] Geology	[ ] Range	[ ]
[ ] Forestry	[ ] Wildlife	[ ] Fire Mgmt.	[ ] Engineering	[ ]
[ ] Contracting	[ ] Ecology	[ ] Botany	[ ] Archaeology	[ ]
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[ ] GIS	

Team Leader: Alan J. Gallegos

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FAX: 559-294-4809

H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

Channel Treatments:

Roads and Trail Treatments:

Protection/Safety Treatments:

I. **Monitoring Narrative:**

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

Monitoring will need to be conducted to find and prevent newly established occurences of Puncture vine. Monitoring will include documentation and hand pulling small new weed occurrences at the time of inspection. New weeds occurrences will be pulled to root depth, placed in sealed plastic bags and properly disposed.

Documentation of new infestations will include:

1.GPS negative and positive inspection results
2.Incorporate data into GIS spatial database
3.Establish photo points
4.Map perimeter of new infestations
5.Estimate number of plants per square meter
6.Treatment method
7.Dates of treatment
8.Evaluate success in subsequent inspection

Inspections and monitoring will be once during April/May 2007. Based upon the first year's survey, additional surveying may be requested for up to three years.

Monitoring Cost

GS –11 Forest Botanist or equivalent	$325/day x 5 days =	$1,625
Mileage:	250 miles @ 0.37/mile =	$92.50
	Total Cost Estimate for FY 2007 =	$1,717.50

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim #

Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$0	$0		$0		$0	$0
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
				$4,020			$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$4,020	$0		$0		$0	$0
F. Monitoring										
				$1,717.50	$0		$0		$0	$1,718
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$1,718	$0		$0		$0	$1,718
G. Totals				$5,738	$0		**$0**		**$0**	**$1,718**
Previously approved										
Total for this request				**$5,738**						

PART VII - APPROVALS

1. /s/ James W. Whitfield (for) — 7/6/2007
   Forest Supervisor (signature) — Date

2. /s/ Beth G. Pendleton (for) — 7/17/2007
   Regional Forester (signature) — Date