

Reply To: 5180

Date: August 6, 1989

Subject: Valley Fire Burned Area Report

To: Andrew Leven
Watershed Mgt. Staff, R-5

VALLEY FIRE REHABILITATION REPORT

On August 3, the Valley fire occurred on the Upper Lake Ranger District of the Mendocino National Forest. This fire took place in the Twin Valley area of the North Fork Cache Creek watershed. Size of the fire was 585 acres.

An interdisciplinary team comprised of the assistant District Ranger, District Timber Management Officer, District assistant Engineer, hydrologist and geologist evaluated the effects of the burn on the watershed.

The following discussion explains why no watershed rehabilitation treatment, other than rehabilitation of fire suppression activities (BMP 6.5 Repair or Stabilization of Fire Suppression Related Watershed Damage) for this fire was deemed necessary.

Following of BMP 6.4 (Minimizing Watershed Damage from Fire Suppression Efforts.) aided in not having to do extensive rehabilitation work on this fire.

To elaborate on how this BMP was used is as follows: once the fire was nearing containment, a line was to be constructed on the north end of the fire in the intermittent pool section of the North Fork Cache Creek. Since the fire was headed this direction, morning fire plans were to backfire from the creek. However, in assessing the fire situation and burn intensities in the afternoon, burn out was changed to pretreatment of the across canyon slope with retardant to limit spotting and allowing the fire to slowly back down the hill towards the creek. This change in fire control tactics saved about one half mile of riparian vegetation on the North Fork Cache Creek and inevitable fire rehabilitation work. The incident commander on this fire had a concern about the value of Cache Creek and truly met the intent of this BMP. This concern also carried over to Twin Valley Creek which is perennial and has riparian vegetation. A hand fireline was build above the riparian vegetation. This fire line location protected the creek from fire plus preserved vegetation to trap sediment.

Even though no emergency rehabilitation funds are being requested for this fire, some rehabilitation work will need to be done to the high intensity burned stream channels and their headwaters. This work would reduce the effects of the fire on National Forest streams that flow onto gullies on private land (Twin

Valley) and reduce the stream scour of small streams that would deliver sediment to North Fork Cache Creek.

Deborah Romberger
Assistant District Ranger

ANALYSIS OF FIRE RELATED DAMAGE

A. Effects of the Fire

1. Burn Intensities

The fire area can be divided into three watershed areas. Within the fire area, about 1/2 of the North Fork Cache Creek watershed was burned, 1/4 of the Twin Valley Creek watershed and 1/4 of the Wild Bill Creek Watershed. Burn intensities ranged from low to high. The Wild Bill Creek watershed had low to moderate burn intensities, Twin Valley watershed had mostly high burn intensities, while North Fork Cache Creek had high burn intensities on the ridge, grading to moderate intensity at mid-slope to low intensity at the creek.

2. Expected Soil Loss

Soil loss will occur on the high intensity burn areas, especially in stream channels. Sediment will be deposited in North Fork Cache Creek and Twin Valley. Sediment entering North Fork Cache Creek may eventually enter Indian Valley Reservoir, which is located about 18 stream miles away. Some sediment will enter Twin Valley Creek and will be deposited in North Fork Cache Creek, some two stream miles away. In Twin Valley, there are a few small gullies caused by water runoff from slopes burned in the fire.

With the fire, it is expected that there will be an increase in channel scour in the class III and IV drainages (order 1 and 2). Sediment entering North Fork Cache Creek will have a minimal impact on water quality in Indian Valley Reservoir because of the distance away and predicted small amounts of sediment produced from the burn.

Water runoff effects will also be seen in the gullies of Twin Valley. These gullies will receive more runoff and will probably have some scouring. Fortunately Twin Valley is flat and sediment reaching the valley floor will be filtered out before reaching Twin Valley Creek.

B. EMERGENCY WATERSHED REHABILITATION MEASURES

1. Fire Suppression

Fire suppression related damage will be corrected by fire equipment and manpower prior to release from the fire. Work to be done includes such items as waterbarring cat and handlines, grass seeding fireline stream crossings, removing cut logs from streams (where deemed necessary), and waterbarring roads used for the fire (where deemed necessary).

2. Emergency Watershed Rehabilitation

The burned area report for the Valley fire could not support the need to request regional funds for grass seeding high intensely burned channels based on environmental and social indices. However, erosion will still be a factor on the burn. Also, Twin Valley is private land that will be impacted by the fire.

The Forest Service should seed the burned drainages as part of the Forest water quality management program. Since this is low elevation, seeding of channels should be done with annual grass, such as Soft Chess. Seeding at a rate of 15 pounds per acre in the fall would give a good stand of grass by mid winter. About 65 acres of streams and headwaters will need to be seeded in Twin Valley and North Fork Cache Creek watersheds.

Robert Faust
Hydrologist

Date of Report: August 6, 1989

BURNED AREA REPORT
(Reference FSH 2509.13, Report FS-2500-8)

PART I - TYPE OF REQUEST

1. Type of Report
 - ☒ A. No Funding Request
 - ☐ B. Funding (Request for estimated FFF funds)
 - ☐ C. Accomplishment Report
2. Type of Action
 - ☒ A. Informational
 - ☐ B. Initial (estimated funding is first requested)
 - ☐ C. Interim
 - a. ☐ Updating the initial funding request.
 - b. ☐ Supplying information for accomplishments to date on emergency work underway.
 - ☐ D. Final
 - ☐ Best estimate for funds needed to complete eligible rehabilitation measure.
 - ☐ Following completion of funded work.

PART II - FIRE LOCATION

1. Fire Name (from Form FS-5100-29): Valley
2. Forest Supervisor's Fire No. (from Form FS-5100-29): 0215
3. State: California
4. County: Lake
5. Region: 05
6. Forest: Mendocino
7. Ranger District: Upper Lake
8. Date Fire Started: August 2, 1989
9. Date Fire Controlled: (Est.) August 8, 1989
10. Estimated Suppression Costs: \$839,000.00
11. Fire Suppression Damages Repaired with FFF 102 Funds:
 - 7 miles (firelines waterbarred)
 - 1 acres (firelines seeded)
 - 0 Other (identify)
12. Fire Intensity: 19 % (low) 20 % (medium) 61 % (high)

PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY

1. Watershed No.: 1802011602
2. NFS Acres Burned: 501
3. Water Repellant Soil: 40 % of NFS acres burned

4. Vegetation Types: Mixed Conifer; Chamise/ Chapparal
5. Geologic Types: Sedimentary Complex
6. Soil Erosion Hazard Rating:

30 % (low) 50 % (medium) 20 % (high)

7. Erosion Potential: 2000 cu. yds/sq. miles
8. Miles of Stream Channels by Regional Order or Classes:
Class 1: 0.5 miles, 2: 0.0 miles, 3: 2.0 miles, 4: 5.0 miles
9. Miles of Forest Service Trails: 1.1
10. Miles of Forest Service Roads by Maintenance Levels:
0 miles (Level I) 0 miles (Level II)
0.95 miles (Levels III, IV, V)

PART IV - CALCULATED RISK AND CLIMATIC EVALUATION

1. Estimated Vegetative Recovery Period: 5 years.
2. Chance of Success Desired by Management: _____ percent.
3. Equivalent Design Recurrence Period: _____ years.
4. Related Design Storm Duration: _____ hours.
5. Related Design Storm Magnitude: _____ inches.
6. Related Design Flow _____ cfs.
7. Estimated Reduction in Infiltration: 40 percent.
8. Adjusted Related Design Flow: _____ cfs.

PART V - SUMMARY OF SURVEY AND ANALYSIS

1. Skills Represented on Burned Area Survey Team ("x" appropriate boxes):

<input checked="" type="checkbox"/> Hydrology	<input type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range
<input checked="" type="checkbox"/> Timber	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Local Mgmt.	<input type="checkbox"/> Research	<input type="checkbox"/> Other (identify)
2. Describe Emergency: Scouring of small stream channels. Enlargement of gullies on private land in Twin Valley.
3. Emergency Rehabilitation Objective:
4. Probability of Completing Treatment Prior to First Major Damage Producing Storm:

Land _____ % Channel _____ % Roads _____ % Other _____ %
5. Net Environmental Quality Benefit Index:

☐ Significant ☒ Not Significant
6. Net Social Well Being Benefit Index:

☐ Significant ☒ Not Significant
7. Benefit/Cost Ratio:
8. Net Benefits:

9. Cost Effectiveness Index: ☐ I. ☐ II. ☐ III. ☒ IV.

PART VII - APPROVALS

/s/ Deborah Romberger for
District Ranger (Signature)

Date