

Date of Report: August 20, 2001

Draft BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- ☐ 1. Funding request for estimated WFSU-SULT funds
☐ 2. Accomplishment Report
☒ 3. No Treatment Recommendation

B. Type of Action

- ☐ 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation 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 DESCRIPTIONA. Fire Name: Gap B. Fire Number: CA-TNF-014107C. State: California D. Counties: Placer and NevadaE. Region: Region 5 F. Forest: Tahoe National ForestG. District: Nevada City Ranger DistrictH. Date Fire Started: August 12, 2001 I. Date Fire Contained: August 16, 2001J. Suppression Cost: Est. \$4,500,000

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 5.5; Hand Line: 6.5
2. Fireline seeded (miles): 0
3. Other (identify): standard suppression rehab of roads (including spot rocking), drop points, staging areas, etc.

L. Watershed Number: **1802012805**M. Total Acres Burned 2,462

NFS Acres(1,385) Other Federal (0) State (0) Private (1,077)

Vegetation Types: Montane chaparral (green leaf manzanita and huckleberry oak), montane mixed conifer

(ponderosa pine, incense cedar, white fir, lodgepole pine, sugar pine, and red fir), riparian meadow, montane meadow, riparian hardwood (mountain alder, black cottonwood, aspen, and willow), rock outcrops with western juniper, and aspen grove communities.

Dominant Soils: Putt, Tinker, Ledmount, Zeibright, Tallac, McCarthy

P. Geologic Types: 80% Glacial Alluvial (granitic), 20% Andesitic Mudflow/Volcanic

Q. Miles of Stream Channels by Order or Class:

Perennial: 5.5 miles Seasonal: 17.8 miles

R. Transportation System

Roads - System: 10 miles

Non-system: 3 miles

Interstate Highway 80: 1 mile

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

| | (Low) | (Moderate) | (High) |
|------------------|--------------------|------------------|------------------|
| Gap Fire -- | <u>1,149 (47%)</u> | <u>865 (35%)</u> | <u>448 (18%)</u> |
| NFS acres -- | <u>617 (45%)</u> | <u>533 (38%)</u> | <u>214 (15%)</u> |
| Private acres -- | <u>532 (49%)</u> | <u>332 (31%)</u> | <u>234 (22%)</u> |

Subwatershed

| | | | |
|---|------------------|-----------------------|-------------------|
| Fulda Creek | <u>207</u> (Low) | <u>170</u> (Moderate) | <u>15</u> (High) |
| Upper North Fork North Fork American R. | <u>192</u> (Low) | <u>402</u> (Moderate) | <u>217</u> (High) |
| Lower North Fork North Fork American R. | <u>452</u> (Low) | <u>223</u> (Moderate) | <u>106</u> (High) |
| Sixmile Valley | <u>273</u> (Low) | <u>47</u> (Moderate) | <u>93</u> (High) |
| Incidental Subwatersheds | <u>25</u> (Low) | <u>23</u> (Moderate) | <u>17</u> (High) |

B. Water-Repellent Soil (acres): Burn area was naturally hydrophobic where sandy soils existed.

C. Soil Erosion Hazard Rating (acres):

0 (low) 0 (moderate) 144 (high) 1734 (very high) 584 (rock)

D. Erosion Potential: 5.0 tons/acre (USLE)

E. Sediment Potential: 454 cubic yards/square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 10

B. Design Chance of Success, (percent): 80

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 2

E. Design Storm Magnitude, (inches): 1.2

F. Design Flow, (cubic feet / second/ square mile): 33

G. Estimated Reduction in Infiltration, (percent): 20

H. Adjusted Design Flow, (cfs per square mile): 40

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

Based on field reviews and analysis, the BAER Team identified the following emergencies as a result of the Gap Fire as per FSH 2509.13:

1. Threats to Human Life: The following values were identified “at risk” during the initial phase of the Gap Fire BAER evaluation process: users of Interstate Highway 80 and local Forest Service and Private roads, owners of the private summer cabins located in Section 28, and Eagle Mtn. Resort users, a private recreational facility.

No additional risks to users of Interstate Highway 80 is anticipated due to the Gap Fire. Caltrans have normal maintenance procedures in place to handle any additional rock fall due to the fire effects. There are no culverts or bridges at-risk during normal precipitation events on government or private land. There is no anticipated emergency situation identified for either the users of the private summer cabins or Eagle Mtn. Resort.

2. Threats to Property: Values identified “at risk” downstream and downslope include Interstate Highway 80, local Forest Service and private roads, private summer cabins, Eagle Mtn. Resort main lodge and out buildings, Pacific Gas and Electric (PG&E) overhead powerline and a water diversion structure with a ditch system and underground structures including a petroleum pipeline, telephone line and fiber optic line. No emergency situation was identified for any of these properties. It is anticipated that none of these structures are at-risk during normal precipitation events.

There are no known occurrences of sensitive plants within the burned area. The greatest potential for negative impacts to the native vegetation and ecosystems within or adjacent to the burned area is the possible introduction of non-native, invasive weed species carried in to the area by fire suppression equipment and activities.

There are no known heritage resources within or adjacent to the burned area which would require emergency protection.

3. Threats to Water Quality: All watersheds in the burn area have a potential for short-term increases in sedimentation and associated effects on water quality due to the burn. The North Fork of the North Fork of the American River (NFNFA River) does not contribute to municipal and domestic water supplies within or directly downstream of the burn area. Beneficial uses of the NFNFA River include contact recreation uses, cold water fish habitat, and cold water fish migration and spawning. The effects to riparian and aquatic ecosystems is expected to be only slightly measurable, and that will be localized. None of these beneficial uses are at-risk and there is no anticipated water quality emergency situation.

4. Threats to Long Term Soil Productivity: The majority of soils within the burned area are upland soils that contain high percentages of gravel and cobble size rock. Soil textures are generally sandy and permeability is moderately rapid. Site capability for timber production (FSSC) ranges from 3 to 5. Approximately 23% of the burned area is rock outcrop.

Soil erosion is predicted to increase as a result of the fire. However, an emergency for long-term soil productivity was **not** determined for the following reasons:

- 81 % of the burned area was mapped as low and moderate burn severity. Most of the high severity areas occurred as islands within the mosaic of low and moderate.
- 23% of the burned area is rock outcrop and most of the fire has soils with 20-60% surface rock fragments.
- Forest Survey Site Class for soils in the burned area is generally 3 or 4. It is not expected that fire effects to these soils will lower the timber producing capability of the soils.
- Despite some fire short-term fire effects to the soil, removal of protective soil cover, and accelerated rates of post-fire erosion, it is unlikely these soils will lose the ability to support the native vegetation that was found before the fire.
- Fire and fire related erosion cycles are common in these ecosystems. It is unlikely that the size and intensity of the Gap Fire is outside the natural range of variability for this area. Natural re-vegetation is expected to occur because a source of viable native seeds still exists. Chaparral species are expected to re-sprout rapidly. Additionally, low intensity fire tends to increase nitrogen availability in the soil, an important nutrient for plant growth.

5. Threats of Noxious and Invasive Weed Invasion: Current inventory of noxious weeds in and around the Gap Fire include Tall whitetop, Spotted knapweed, Scotch broom, Perennial pepperweed, and Yellow starthistle, as well as numerous other invasive exotics such as Bull thistle, Klamath weed, and Woolly mullein. Occurrences of Tall whitetop, Yellow starthistle, and Spotted knapweed have been located in staging areas and fire lines.

The use of equipment in the efforts of suppression and rehabilitation of the Gap Fire poses a significant risk to spread of these noxious weeds to other areas where they are not found both in the fire area and at home units where efforts to eradicate these species can be costly. The Sierra Nevada Forest Plan Amendment (SNFP) recognizes that fire suppression equipment as well as burned areas act as vectors and ideal growing habitat respectively. The SNFP has directed Sierran Forests to develop baseline information for land areas with special considerations including noxious weeds for incorporation into a computer aided dispatch system. The link to a dispatch system has not been fully implemented on most Sierran Forests, however known occurrences of noxious weeds were mapped in the Tahoe National Forest (TNF) Noxious Weed Standards and Guidelines book as well as GIS mapping and aided in development of plans to deal with noxious weeds during and after the fire. It was realized early in the fire that there were noxious weed infestations in and around the Gap Fire. An important prevention in the spread of weeds that occur in the area is washing of equipment prior to demobilization from the Gap Fire. Washing equipment was stationed at the Kingvale CalTrans Maintenance Station by August 16, 2001. All demobilized equipment was washed as part of their vehicle equipment inspection before returning to home units. Cleaning equipment helped to prevent the spread of noxious weeds to home units but did not prevent weeds from being spread throughout the Gap fire area during suppression and mop-up.

6. Threats to Wildlife Resources: The Gap Fire, fire-associated activities and post-fire conditions will not affect any federally listed species or their critical habitat as identified on the U.S. Fish and Wildlife Service list of species for the Tahoe National Forest (April 10, 2001). This list includes: bald eagle, California red-legged frog, Valley elderberry longhorn beetle and Lahontan cutthroat trout. The only federally listed species that may have habitat within the fire area is bald eagle. For additional information on T&E species and the Gap Fire refer to the BAER Wildlife Resources Specialist Report and Biological Assessment (August 19, 2001) and Wildland Fire Situation Analysis Preliminary Review of the Gap Fire for TEPS species and Noxious Weeds (8/13-14/01).

The Gap Fire did not result in any threats to wildlife resources. Wildlife habitats were affected by the fire and fire-related activities, however, natural processes will recover this area over time. There does not appear to be a threat of exotic wildlife (such as bull frogs) being favored in the fire area due to post-fire conditions. Nor does

there appear to be a threat of potential additional OHV use in non-designated unsuitable areas now that the vegetation is opened up from the fire. No BAER treatments are being recommended for T&E wildlife resources.

B. Emergency Treatment Objectives:

No emergency treatments are recommended. The monitoring of noxious and invasive weeds is requested to determine, if any, the extent of noxious weed establishment within and adjacent to the Gap fire area.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land ___% Channel ___% Roads ___% Other ___ %

D. Probability of Treatment Success

| Years after Treatment | | | |
|-----------------------|-----|-----|-----|
| | 1 | 3 | 5 |
| Land | N/A | N/A | N/A |
| | | | |
| Channel | N/A | N/A | N/A |
| | | | |
| Roads | N/A | N/A | N/A |
| | | | |
| Other | N/A | N/A | N/A |
| | | | |

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

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

☒ Hydrology ☒ Soils ☒ Geology ☐ Range
☐ Forestry ☒ Wildlife ☐ Fire Mgmt. ☒ Engineering
☐ Contracting ☐ Ecology ☒ Botany ☒ Archaeology
☒ Fisheries ☐ Research ☐ Landscape Arch ☒ GIS

Team Leader: Tim Biddinger

Email: tbiddinger@fs.fed.us Phone: 530-478-6249
FAX: 530-478-6241

BAER Team Core Members:

Tim Biddinger, Team Leader, Tahoe NF

Blaze Baker, Botanist, Tahoe NF
Ann Carlson, Fisheries/Wildlife Biologist, Tahoe NF
Eric Schroder, Soil Scientist, Tahoe NF

Expanded BAER Team Members:

Rick Weaver, Hydrologist, Tahoe NF
Bill Slater, Archaeologist, Tahoe NF
Ray Puhl, Engineering, Tahoe NF
Bob McChesney, Engineering, Tahoe NF
Tera Curren, Geologist (trainee), Tahoe NF
Cliff Heitz, Resource Conservationist, NRCS – Placer County, CA

H. Treatment Narrative:

No emergency treatments are recommended.

I. Monitoring Narrative:

Monitoring of the fire areas on the Tahoe National Forest will be required to determine if the Gap Fire and associated suppression efforts resulted in the introduction and spread of noxious weeds into areas that were not infested. Monitoring areas utilized for fire suppression activities will be key in prevention of these weeds becoming a serious pest in those areas and adjacent areas in the burn. These areas include drop points 1-6, staging areas, all roads inside the burn area (portions of the 9100 network, a portion of Interstate 80, and Onion Valley road,) dozer lines, and safety areas. It will take 2-3 years for many of these plants to become identifiable depending on their biology. Time required would be about four days (10-hour days) for two personnel annually for three years. Monitoring should take place for at least three years after the fire. Longer-term monitoring would also be advisable. This can be accomplished by noxious weed identification education for recreation and other TNF staff as to the likely invaders of these areas.

An upper-grade (GS 9-11) employee with a mid grade (GS 5-7) employee in botany or other appropriate natural resource series should be utilized. This time includes the necessary time needed to perform weed reporting. If noxious weeds were found, it would be the responsibility of the TNF to fund eradication activities.

[illegible]

1. /s/ Steven T. Eubanks 8/20/2001 Tahoe National Forest
Forest Supervisor (signature) Date

2. _____ _____ Region 5 – Pacific Southwest Region
Regional Forester (signature) Date

USDA FOREST SERVICE BURNED AREA EMERGENCY REHABILITATION TEAM

Gap Fire

NOXIOUS WEED ASSESSMENT

I Objectives

Evaluate the potential for invasive exotic species/noxious weeds to invade and alter native plant communities in and from the vulnerable burned areas.

Provide management recommendations to assist in protection from noxious and invasive exotic weed introduction/spread.

II Issues

Monitoring of lands burned in the Gap Fire for early detection and control of noxious weeds.

III Observations

The burned area consists of approximately 2,462 acres of montane chaparral (green leaf manzanita and huckleberry oak), montane mixed conifer (ponderosa pine, incense cedar, white fir, lodgepole pine, sugar pine, and red fir), riparian meadow, montane meadow, riparian hardwood (mountain alder, black cottonwood, aspen, and willow), rock outcrops with western juniper, and aspen grove communities. Some of the forested areas in the upper elevations of the Gap fire were dominated by white fir. The elevation range of the burned area is between 4,900 to 6,140 feet.

Determinations and recommendations in this assessment are based upon information from resource specialists, BAER team specialists, land managers, literature reviews, and field data of the fire area (from suppression rehab and BEAR personnel).

Current inventory of noxious weeds in and around the Gap Fire include Tall whitetop, Spotted knapweed, Scotch broom, Perennial pepperweed, and Yellow starthistle, as well as numerous other invasive exotics such as Bull thistle, Klamath weed, and Woolly mullein. Occurrences of Tall whitetop, Yellow starthistle, and Spotted knapweed have been located in staging areas and fire lines.

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IV Recommendations

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V Consultations

TNF GIS weed layer map and TNF Noxious Weed Standards and Guidelines book housed at the Supervisor's Office in Nevada City, CA.

Jim Edson (I-80 Donner Pass area manager) of the California Department of Transportation (CalTrans), for the use of the Kingvale Station for an equipment washing station.

Nevada-Placer Weed Management Area (NPWMA, the TNF is a member of the NPWMA and is has current coordination for known weed occurrences for GIS and Standards and Guidelines mapping of those occurrences). This is for the Counties of Nevada and Placer in California. Kathy Van Zuuk (Ecologist) from the TNF/Nevada City Ranger District (530.478.6243) and Eric Gunderson of the Nevada County Agricultural Commissioner's office 530.273.2648 communicated about weeds in the Gap Fire area (both represent their agencies in the NPWMA).

VI References

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Schierenbeck, K. 1995. The threat to the California flora from invasive species; problems and possible solutions. *Madrono* (42) 2 pp168-174.

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Stohlgren, Thomas J., D. Binkley, G. Chong, M. Kalhan, K. Snell, K. Bull, Y. Otsuki, G. Newman, M. Bashkin, and Y. Son. 1999. Exotic plant species invade hot spots of native plant diversity. *Ecological Monographs*, 69(1). pp. 25-46.

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Whitson, Tom; Larry Burrill, Steven Dewey, David Cudney, B. E. Nelson, Richard Lee, and Robert Parker. 1996. *Weeds of the West*. The Western Society of Weed Science. 630 pages.