

Burn Area Recovery Task Force (BARTF) Report San Bernardino County Grass Valley Fire



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Burn Area Recovery Task Force Assessment (BARTF) San Bernardino County Grass Valley Fire

Executive Summary

The Grass Valley Fire perimeter encompasses 1,241 acres in San Bernardino County. The fire occurred on steep slopes which increases the potential for sediment, debris laden flooding, and debris flows within the Grass Valley Fire Area. The fire occurred on private land, surrounding communities and the San Bernardino National Forest. The fire consumed 179 homes on private land.

Approximately 450 residents in Grass Valley Fire area are at risk from potential mudslides, flooding, and debris flows based on the Federal Emergency Management Agency's (FEMA) Post-Fire Hazard Awareness Maps. A summary of life and property risks and the proposed remedies by California Department of Transportation, San Bernardino County (County), and U.S. Forest Service (USFS) include:

- Denuded slopes within the burn area present a direct threat to several communities and associated infrastructure from mudflows, flooding, washouts or injury to hazardous trees. The greatest risks to lives and property are in the Grass Valley Community;
- Infrastructure including roads and bridges maintained by the County are at high risk for debris flow and flooding, or washing out;
- Removal of debris, cleaning culverts, hazardous tree removal, and erosion control measures may reduce the risk to public and private property;
- Water quality at Silverwood Lake, a municipal water sources owned by Department of Water Resources, is at risk from contamination due to hazardous material laden run-off and excess sedimentation;
- USFS has several facilities and infrastructure within the fire perimeter at risk from flooding, debris flow, and/or washouts;
- Funding for debris removal and erosion control measures may fall under the purview of the NRCS; and
- Environmental permits may be required for many of the proposed projects identified in subsequent reports. Many of these proposed projects can be completed under emergency conditions or under the waiver process identified in the State Executive Order.

Purpose

This BARTF report briefly identifies life and property values at risk and proposed emergency protective measures associated with the Grass Valley Fire. The Grass Valley

Fire is one of numerous Southern California wildfires included in the Presidential Disaster Declaration DR-1731-CA. The purpose of this report is to address post-fire flooding, erosion, and debris flow hazards within and downstream of the fire perimeter. This report will also identify gaps in funding, potential funding sources for all projects, and potential conflicts that may slow or interfere with the proposed emergency protective measures.

Information has been derived from the State's Burned Area Emergency Response (BAER) Team reports, the United States Department of Agriculture (USDA) - Forest Service Burned-Area Reports, FEMA Post-Fire Hazard Awareness Maps, local government requests for public assistance, and Natural Resources Conservation Service (NRCS) funding lists.

Introduction

The Grass Valley Fire perimeter encompasses 1,241 acres in San Bernardino County. Property owners include USFS and private land owners. The fire consumed 179 homes on private land and the surrounding open space within the San Bernardino National Forest.

The fire burned at a high severity throughout the fire due to high winds, low moisture content, and densely forested pine trees overhanging homes.

No sensitive species were identified at risk within the fire perimeter. However, environmental permits may be required for many of the proposed projects identified in this BARTF report. Many of these proposed projects can be completed under emergency conditions or under the waiver process identified in State Executive Order (S-13-07). Projects that do not fall under these classifications would need to follow the regular permit process. See Appendix A – Environmental Permitting Requirements for an explanation of the required permits and the waiver process.

This report summarizes the major issues identified by the BAER reports in addition to issues identified from other sources. The report is organized by Hydrologic Unit Code (HUC-6) watersheds. Two HUC-6 watersheds, Mojave River Forks Reservoir and Silverwood Lake Watershed were impacted by the fire. Threats to life, safety, and infrastructure will be discussed under each HUC-6 watershed identified within the fire perimeter and areas covered in the Post-Fire Hazard Awareness Maps. Proposed emergency protective measures identified will be evaluated along with any issues that may impede the progress of these measures. Potential funding sources will be discussed and gaps in funding will be identified.

Mojave River Forks Reservoir Watershed

Background

The Mojave River Fork Reservoir watershed includes the largest portion of the Grass Valley Fire perimeter including Grass Valley Lake and most of the residential area within the fire perimeter. Therefore, a majority of the values at risk in this fire pertain to this watershed. Values at risk in Mojave River Forks Reservoir watershed include public infrastructure and residential properties from mudslides, flooding and debris flows.

Approximately 450 residents in Grass Valley Fire area are at risk from potential mudslides, flooding, and debris flows based on the FEMA Post-Fire Hazard Awareness Maps.

Analysis

- There is a high risk to the communities of Grass Valley from potential sediment and debris laden flooding, debris flows, and hazard trees as a result of the steep denuded slopes within the fire area. The threats are highest for residential properties in the community on the slope from approximately 40 to 65 percent slopes.
- There is high risk to public safety in Mojave River Forks Reservoir from potential flooding, hazard trees and debris flows.
- There is increased risk to public safety at the crossing of Forest Road 2N33 and Grass Valley Creek from the potential increased flows which may overtop the concrete ford.
- 179 homes on private land were completely consumed by the fire and the debris remaining poses a major threat to water quality, aquatic and terrestrial wildlife to the lake and downstream of the burned homes.
- There is high potential for contamination of Grass Valley Creek and Grass Valley Lake by the heavy metals and asbestos remaining in burned debris.
- There are potential threats from the increased sediment delivery and debris to move through the tunnel into Lake Arrowhead.
- There are threats to power lines from hazard trees which could fall across power line.
- No sensitive biological resources were identified as being at risk due to fire suppression, post fire suppression, and potential sediment flow within the fire area.

Potential Emergency Protective Measures

- Immediate debris removal should be accomplished before the significant winter rain event.
- Erosion control measures should be installed downslope of burned structures.
- Erosion control measures should be implemented throughout the burned areas.

- Install sediment containment structures such as silt fences on parcels where debris could be mobilized.
- California Department of Transportation (Caltrans) District 8 has completed several emergency protective measures including:
 - the installation of debris racks in or near Camp Angelus;
 - the removal of debris;
 - replacement of damaged signs and placement of erosion control measures at various locations;
 - removal of burned trees throughout the burned areas;
 - removal and/or grading excess sand on roads; and,
 - cleaning out drainage inlets on the roads within the burned areas Caltrans District 8.
- Lake Arrowhead Country Club cleaned out two sediment basins. In addition, Lake Arrowhead Country Club Golf Course can receive sediment flows in the event of flooding.
- The quality of water in Grass Valley Lake should be monitored continuously.
- The gate at the water tunnel to Lake Arrowhead should be maintained to remain functional.
- The water quality in Grass Valley Lake should be monitored continuously.
- NRCS has identified a project to provide sand bags and K-rails to protect 24 homes and a pumping plant.
- Notification to wetland permitting agencies for stream bed work should occur prior to conducting emergency and exigent work in all water courses.

Grass Valley Fire- Silverwood Lake Watershed

Background

The Silverwood Lake Watershed encompassed a small percentage of the Grass Valley Fire. Although no values at risk were identified in the BAER report within the fire perimeter, as this area is an undeveloped portion owned by U.S. Forest Service, the Post-Fire Hazard Awareness Maps identify Silverwood Lake as a value at risk to debris flows. Silverwood Lake is owned and managed by the California Department of Water Resources. Water from the lake is used for drinking water, recreation, and hydroelectric power. A State Recreation Area for the public also exists along the lakes perimeter.

Analysis

Water Quality and recreation are at risk from flooding, debris flow, and contamination.

Potential Emergency Protective Measures

Although non-specific protective measures were identified in the BAER reports or local government, general erosion control measures within the burn area should improve water quality downstream in the lake.

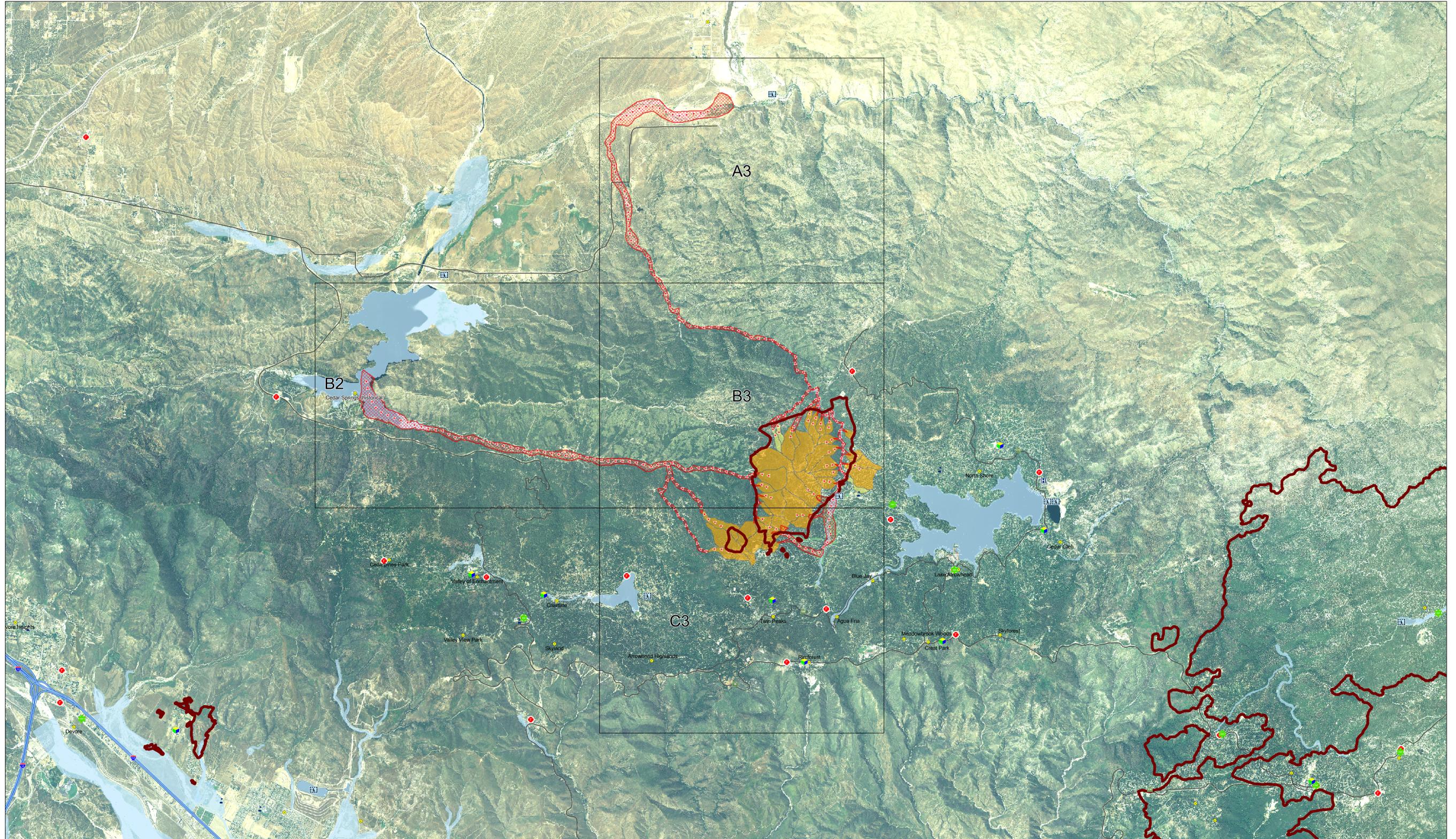
Notification to wetland permitting agencies for in-stream work should occur prior to conducting emergency and exigent work in all water courses.

Table 1 – Possible Funding Sources

Yes	No	Funding Sources
X		FEMA/OES Public Assistance Emergency Work (Cat A & B)
		FEMA/OES Public Assistance Permanent Work (Cat C-G)
		406 Hazard Mitigation
		404 Hazard Mitigation
X		Natural Resource Conservation Service (NRCS)
		U.S. Fish & Wildlife Service
		U.S. Army Corps of Engineers
		National Marine Fisheries Service (NMFS)
X		California Disaster Assistance Act
		Other funding:

Appendices

- Appendix A – Environmental Permitting Requirements
- Appendix B – Archaeological
- Appendix C – Descriptions of State and Federal Program Funding
- Appendix E - Preliminary Suggested Projects



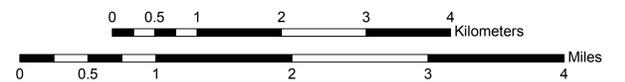
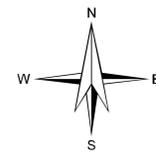
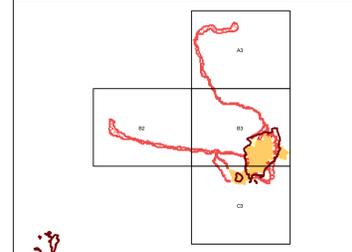
LEGEND

- Populated Places
- Ⓜ Hospital
- Ⓜ EMS
- Ⓜ School
- Ⓜ Daycare Facilities
- Ⓜ Fire Station
- Ⓜ Dam
- Ⓜ GrassValley Debris Flow Lines
- Ⓜ FEMA Flood Hazard Areas
- Ⓜ Fire Perimeter
- Ⓜ FEMA Potential Debris Flow Risk Area
- USGS Potential Debris Volume**
- Ⓜ 0 to 1,000 cubic meters
- Ⓜ 1,001 to 10,000 cubic meters
- Ⓜ 10,001 to 100,000 cubic meters

LOCATION MAP



INDEX MAP



Department of Homeland Security
Federal Emergency Management Agency
Date Created: 11/29/07
Author: MASG - Colton
Version: V 2.0

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MAPS FOR ADVISORY PURPOSES ONLY. NOT FOR INSURANCE RATING PURPOSES. For insurance rating purposes, please refer to the Flood Insurance Rate Map currently in effect. Debris flow information is PRELIMINARY. Debris flow volumes calculated in response to a 10 year recurrence based on 3 hour duration storm producing 1.75 inches of rainfall. Volumes based on a model currently being tested. Debris flow behavior is highly unpredictable and this map shows the best available information at the time of printing. Populations estimated using 2000 Census data and are calculated for those areas only within the grid index.