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

Date of Report:9/22/2006

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: Ralston

B. Fire Number: CA-TNF-1443

C. State: California

D. County: Placer

E. Region: Pacific Southwest Region (R5)

F. Forests: Tahoe (TNF) and Eldorado (ENF)

G. Districts: American River (TNF)
Georgetown (ENF)

H. Fire Incident Job Code: P5CS4C

I. Date Fire Started: 9/5/2006

J. Date Fire Contained: 9/17/2006

K. Suppression Cost: $13,100,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles):est. 5
2. Fireline seeded (miles): 0
3. Other (identify):

M. Watershed Number: 1802012801 (Upper Middle Fork American River)
1802012802 (Rubicon River)
1802012803 (North Fork Middle Fork American River)
1802012804 (Lower Middle Fork American River)

N. Total Acres Burned: 8,423 acres
NFS Acres (**6,233**) [TNF(4,565) and ENF (1,668)] Other Federal (N/A) State (N/A) Private (**2,190**)

O. Vegetation Types: South aspect: Mixed Conifer-Canyon Live Oak group;
North aspect: Mixed Conifer-Hardwood group.

P. Dominant Soils: Deadwood-Rock outcrop-Hurlbut complex, 30-75% slopes;
Hurlbut-Deadwood-Rock outcrop complex, 30-75% slopes;

Crozier-Mariposa-Cryumbrepts, wet complex, 30-75% slopes;
Rock outcrop-Deadwood association, 50-100% slopes;
Jocal-Jocal Variant-Cryumbrepts, wet complex, 50-75% slopes.

Q. Geologic Types: Miocene-Pliocene volcanic rock (MPv) and Shoo Fly Complex (Pzsf)

R. Miles of Stream Channels by Order or Class: Perennial: 6.1 miles; Intermittent: 33.7 miles

S. Transportation System

Trails: 1.4 miles Roads: 24.7 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 6,130 - 73% (low/unburned) 2,031 – 24% (moderate) 262 – 3% (high)

B. Water-Repellent Soil (acres): 262 acres

C. Soil Erosion Hazard Rating (acres):
0 (low) 1,010 (moderate) 7,413 (high)

D. Erosion Potential: 1.1 tons/acre

E. Sediment Potential: 435 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3

B. Design Chance of Success, (percent): 100

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

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 4.7

F. Design Flow, (cubic feet / second/ square mile): 36

G. Estimated Reduction in Infiltration, (percent): 3

H. Adjusted Design Flow, (cfs per square mile): 46

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

1. **Threats to Human Life** – There are no known year-round residents within the Ralston Fire perimeter. There is, however, human activity in and around the burned area including: travel routes through the burned

area, recreational users, private industrial timber land, and power/water facilities, such as, PG&E powerlines and Placer County Water Agency (PCWA) hydropower faciliities including dams, penstocks, switchyards,

powerhouses, and associated structures. The threat to human life comes from the potential unstable slopes above the waterways, travel routes, powerlines, and hyropower facilities caused by the fire and the potential for rock slides and other falling debris. The fire burned or damaged traffic safety devices, warning and control signs on the roads. The main recreational routes are two Forest Service hiking trails, the North Fork

of the Middle Fork American River Trail and the Mosquito Ridge Trail, which are located within the fire perimeter and could expose hikers to hazards created by the fire. These trails will be closed until it is determined to be safe.

2. **Threats to Non Forest Service Facilities** – There are several hydropower facilities within and adjacent to the Ralston Fire perimeter as listed above. Placer County Water Agency (PCWA) Middle Fork Project hydropower facilities include powerhouses, penstocks, switchyards, and other dam facilities (Interbay and Ralston Afterbay) and Pacific Gas and Electric (PG&E) power facilities include a powerline which serves the PCWA hydropower facilities. There is an anticipated threat to these facilities from rock and debris fall to the associated structures. There is an additional threat from increased sediment delivery to the river system and accumulating in the Ralston Afterbay facility, exceeding the sediment storage capacity of the facility. After reviewing the PCWA and PG&E facilities, there is the potential for rock and debris fall impacting the facilities although rock and debris fall and slope failures are normal in these areas and in many cases the instability will occur in response to unseasonably wet conditions rather than the loss of vegetation due to the Ralston Fire. Due to the small amount of “high” burn severity (262 acres) and the amount of steep/rocky slopes throughout the burn area, slope treatments would not effective or recommended for control of erosion and sediment delivery.

3. **Threats to Roads and Trails** – As mentioned above, there are several Forest Service specified roads traversing through the burned area. These roads include the Mosquito Ridge Road (Forest Road #96), Blacksmith Flat Road (Forest Road #23), Interbay Road (Forest Road #96-17) and other minor local roads. There exists the potential for damage to the road surface and associated safety structures and signage from rock and debris fall and plugged culverts increasing the risk of fill slope failures and washouts. The concern is maintaining continued access to the Placer County Water Agency hydropower facilities, access for restoration and timber salvage on private and national forest lands, access for residents in the Big Oak Flat area, and access in general to all the forest users to the northern portion of the Georgetown Ranger District and the southern portion of the American River Ranger District.

4. **Threats to Water Quality** – There will be a short-term threat to water quality in all three major drainages, Middle Fork American River, North Fork Middle Fork American River, and Rubicon River. Ash and sediment is expected to be mobilized off the steeper slopes during the first significant precipitation event. These areas will have an increased potential for storm water runoff and erosion, especially downslope/downstream from areas of high burn severity. The main short-term threat to water quality will be from fine, suspended sediment which could impact facilities of PCWA’s Middle Fork Project. Due to the small amount of “high” burn severity (262 acres) and the amount of steep/rocky slopes throughout the burn area, slope treatments would not effective or recommended for control of erosion and sediment delivery.

5. **Threats to Long Term Soil Productivity** – A long-term threat to soil productivity is not predicted for the Ralston Fire burn area. Over 70% of the burn area was classified as “low/unburned” burn severity and close to 25% was classified as “moderate” burn severity. The risk of soil erosion attributed to the Ralston Fire does not pose a threat to long-term soil productivity.

6. **Threats of Noxious and Invasive Weeds** – It is unknown whether or not all fire suppression equipment used on the Ralston Fire was weed free prior to arrival at the incident. Equipment such as trucks, passenger vehicles, dozers, and engines have the potential to transport noxious weeds and were used within the Ralston Fire burned area.
A known infestation of skeleton weed (*Chondrilla juncea*), rated as an “A” pest on the State Noxious Weed List, occurs within Section 26, Township 14 North, Range 12 East within a portion of the Ralston Fire burned area along the 96-17 road. There is also a known infestation of spotted knapweed (*Centaurea maculosa*), rated as an “A” pest on the State Noxious Weed List, occurs within Section 23, Township 11 North, Range 12 East, along the Chicken Hawk road. It is likely that mature seeds were present on these plants during

the fire. These plant reproduces by seed. No other noxious weed species are known to occur within the Ralston Fire burned area; but if dormant seeds of other noxious weeds (previously undetected) are present it is possible that fire effects to soils and ground cover could promote post-fire germination.

7. **Threats to Wildlife Resources** – A California red-legged frog (*Rana aurora draytonii*) was observed and identified by the US Fish and Wildlife Service in 2001. The location was within the burn perimeter. Jann Williams, Eldorado NF Fisheries Biologist, located the pond where the frog was observed and found the pond to be dry and no frog present. The US Fish and Wildlife Service was consulted. This was the only known Threatened and Endangered wildlife resources within or influenced by the Ralston Fire.

8. **Threats to Botanical Resources** – There are no known Threatened and Endangered botanical resources within or influenced by the Ralston Fire.

9. **Threats to Cultural Resources** –There are no proposed BAER treatments for any of the known cultural resources within the fire perimeter of the Ralston Fire. There are no ground distubing activities proposed by the BAER Team for the burned area, except for installing safety signs. Archaelological coverage will be implemented prior to installing signs or any ground disturbing activity associated with road safety.

B. Emergency Treatment Objectives:

1. **Threats to Human Life** – The main objective of the Ralston Fire BAER Team is the protection of human life in association with resource damage caused from the Ralston Fire. The threat to human life comes from the potential unstable slopes above the waterways, travel routes, and hydropower facilities caused by the fire and the potential for rock slides and other falling debris. The number one priority within the Ralston Fire is the safe use of roads by Forest Service personnel and the public. The closure of the area to vehicle use is not feasible due to access needs from the private land owners (Lonestar and Sierra Pacific Industries), PG&E, and PCWA. PCWA has daily needs to access their Ralston and Interbay hydropower facilities. The two system trails will be closed to the public until it is determined to be safe..

2. **Threats to Roads -** The concern is maintaining continued access to the Middle Fork American River hydro electric facilities, access for restoration and timber salvage on private and National Forest lands, access for residents in the Big Oak Flat area, and access in general to all the forest users to the northern portion of the Georgetown Ranger District and the southern portion of the American River Ranger District. Falling rock and debris will fill roadway ditches and plug culverts increasing the risk of fill slope failures and washouts, particularly on Mosquito Ridge and Blacksmith Flat Roads. The coming seasonal rains will likely cause a sufficient amount of the debris to fall into the ditches and wash into culvert basins plugging both the culverts and the ditches. This increases the probability of a major road failure and sediment production. That concern is likely to persist through the entire rainy season. Although it is difficult to predict which ditches or culverts may become plugged, reviews of the roads suggest that blockages would likely lead to costly and dangerous pipe and fill slope failures and possible long term loss of use of the roads. Snow packs are generally light and short in duration to none in the burned area.

3. **Threats of Noxious and Invasive Weeds -** To determine if the fire has enabled the establishment and spread of noxious weeds, and to detect such establishment and spread as early as possible, the BAER team recommends noxious weed detection surveys be conducted. Early detection dramatically increases the likelihood of successful treatment.

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

Land **90** % Channel **N/A** % Roads/Trails **90** % Protection/Safety **90** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90%	N/A	N/A
Channel	N/A	N/A	N/A
Roads/Trails	90%	90%	90%
Protection/Safety	90%	90%	90%

E. Cost of No-Action (Including Loss): $4,310,700

F. Cost of Selected Alternative (Including Loss): $2,045,700

G. Skills Represented on Burned-Area Survey Team:
[X] Hydrology [X] Soils [X] Geology [ ] Range [X] Forestry [X] Wildlife [ ] Fire Mgmt.
[X] Engineering [ ] Contracting [ ] Ecology [X] Botany [X] Archaeology [X] Fisheries [ ] Research
[ ] Landscape Arch [X] GIS

Team Leader: Tim Biddinger

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

Core BAER Team
Tim Biddinger (Team Leader) Tahoe NF
Rick Weaver (Deputy Team Leader, Hydrologist, Soils) Tahoe NF
Dr. Tom Koler (Deputy Team Leader (T), Geologist) Eldorado NF
Scott Husmann (Engineering) Tahoe NF
Melissa Hallas (Engineering) (T) Tahoe NF
Dorit Millard (Archaeologist) Eldorado NF
Karin Klemic (Archaeologist) Eldorado NF
Extended BAER Team
Matt Triggs (Wildlife Biologist/Botanist) Tahoe NF
Jann Williams (Fisheries Biologist) Eldorado NF
Mike Taylor (Botanist) Eldorado NF
John Babin (GIS) Tahoe NF
Adjunct BAER Team
Karen Jones (Silviculturist) Tahoe NF
Tim Howard (Silviculturist) Eldorado NF

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: To determine if the fire has enabled the establishment and spread of noxious weeds, and to detect such establishment and spread as early as possible, the BAER team recommends noxious weed detection surveys be conducted. Early detection dramatically increases the likelihood of successful treatment. A detailed weed detection survey plan is found in Appendix B attached. The total cost for the noxious weed detection survey will be **$1,435** for the first year after the fire.

Channel Treatments: N/A

Roads and Trail Treatments: Perform twice daily patrol and slough removal with blade truck during rain events and once after each rain on 11 miles of Mosquito Ridge Road and 8 miles Blacksmith Flat Road. Remove larger material and slides with front end loader. Clear roadway ditches with front end loader. Clear culvert inlets with backhoe. Haul to disposal. Perform periodic geologist /road management visits to review and adjust treatment. A detailed description of the roads/trails treatment is found in Appendix C attached.

Buy and install 3 culverts	3 X $12,000 = $ 36,000
FS Backhoe -$150 daily	65 X $150 = $ 9,750
FS Blade truck $20 mileage / day	65 X $20 = $ 1,300
FS 10 yd Dump $50 mileage / day	25 X $50 = $ 1,250
Cat 938G, 3 yd loader monthly rental	6 X $5250 = $ 31,500
Laborer	65 X $175 = $ 11,375
Operator, loader	65 X $275 = $ 17,875
Operator, backhoe	65 X $275 = $ 17,875
Foreman, driver	25 X $375 = $ 9,375
Geologist / Technical	20 X $400 = $ 8,000
Total Cost:	**$144,300**

Protection/Safety Treatments: Use force account crews to replace signs and guardrails. Purchase sign and guardrail materials locally. Use existing inventory of object markers. Use existing supply of bin wall stock to replace damaged section.

Install trail closure signs	2 X $150 = $ 300
Replace 19 signs and posts:	19 X $150 = $ 2,850
Install 87 object markers:	87 X $ 10 = $ 870
Replace 13 guardrail posts:	13 X $300 = $ 3,900
Install bin wall, labor & equip	1 X $3,000 = $ 3,000
Total Cost:	**$10,920**

I. **Monitoring Narrative:** N/A

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim#**

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
Weed Survey:				$0	$0		$0		$0	$0
Salaries	days	325	4	$1,300	$0		$0		$0	$1,300
Vehicles	miles	0.45	300	$135	$0		$0		$0	$135
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$1,435	$0		$0		$0	$1,435
B. Channel Treatments										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Culvert Install	culvert	12000	3	$36,000	$0		$0		$0	$36,000
Backhoe	day	150	65	$9,750	$0		$0		$0	$9,750
Blade Truck	miles	0.5	2,600	$1,300	$0		$0		$0	$1,300
10 yard Dump	miles	0.5	2,500	$1,250	$0		$0		$0	$1,250
3 yard Loader	month	5,250	6	$31,500	$0		$0		$0	$31,500
Laborer	day	175	65	$11,375	$0		$0		$0	$11,375
Equip. Operators	day	275	130	$35,750	$0		$0		$0	$35,750
Foreman	day	375	25	$9,375	$0		$0		$0	$9,375
Technical Expert	day	400	20	$8,000	$0		$0		$0	$8,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$144,300	$0		$0		$0	$144,300
D. Protection/Safety										
Closure signs	sign	150	2	$300	$0		$0		$0	$300
Safety signs	sign	150	19	$2,850	$0		$0		$0	$2,850
Object markers	each	10	87	$870	$0		$0		$0	$870
Guardrail posts	posts	300	13	$3,900	$0		$0		$0	$3,900
Bin wall	wall	3,000	1	$3,000	$0		$0		$0	$3,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$10,920	$0		$0		$0	$10,920
E. BAER Evaluation										
Salaries	days	600	55	$33,000	$0		$0		$0	$33,000
Vehicles	miles	1,000	0.5	$500	$0		$0		$0	$500
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$33,500	$0		$0		$0	$33,500
F. Monitoring										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$190,155	$0		**$0**		**$0**	**$190,155**
Previously approved										
Total for this request				**$190,155**						

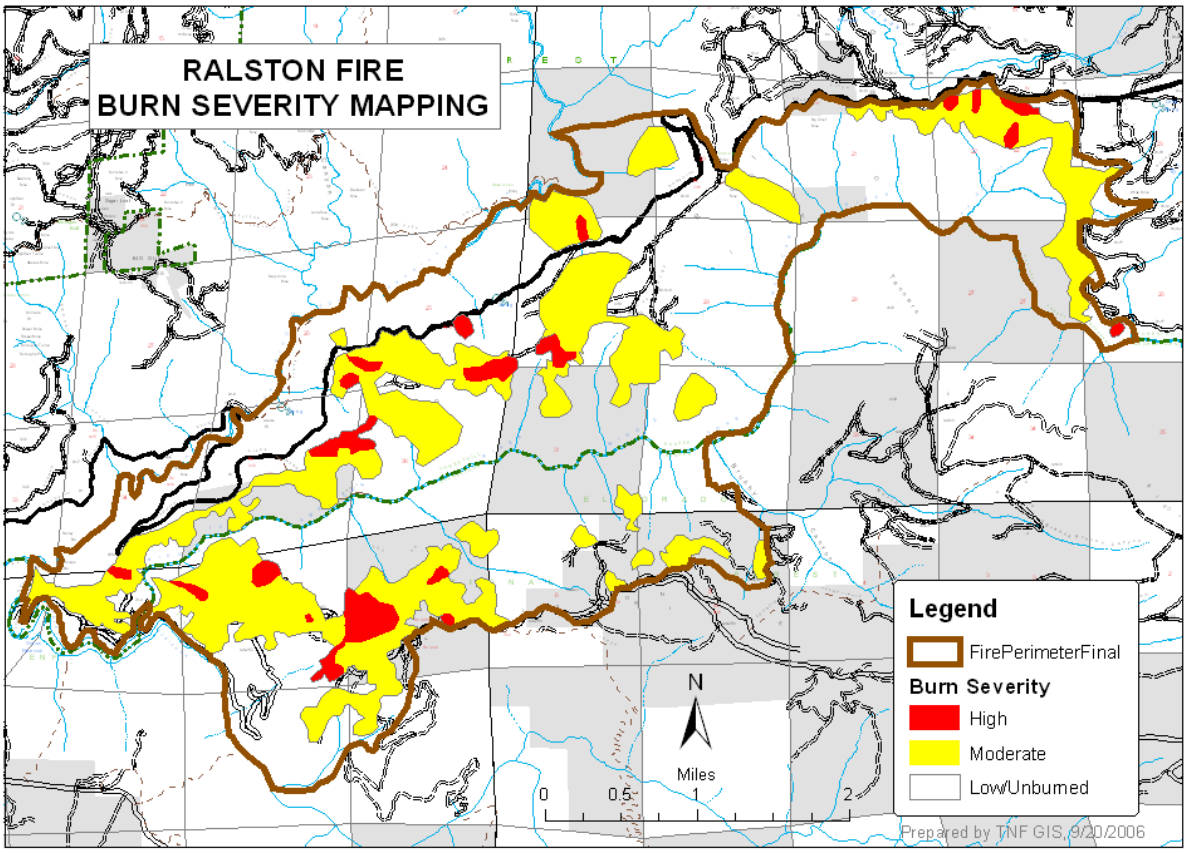
PART VII - APPROVALS

1. /s/ Jan Cutts for_____ 9/22/06
Tahoe National Forest Date
Forest Supervisor (signature)

/s/ Tim Dabney for_____ 9/22/06
Eldorado National Forest Date
Forest Supervisor (signature)

2. /s/ Beth G. Pendleton (for) 9/28/06
Regional Forester (signature) Date

APPENDIX A
RALSTON FIRE Burn Severity Map



APPENDIX B
RALSTON FIRE Noxious Weeds and Invasive Plants Report

Month/Year: September/2006
Author Name(s): Matt Triggs
Author Title: Biologist, Program manager wildlife, fisheries, rare plants
Author Duty Station: American River Ranger District, Tahoe National Forest

I. Resource Condition Assessment

A. Initial Concerns

It is unknown whether or not all fire suppression equipment used on the Ralston Fire was weed free prior to arrival at the incident. Equipment such as trucks, passenger vehicles, dozers, and engines have the potential to transport noxious weeds and were used within the Ralston Fire burned area.
A known infestation of skeleton weed (*Chondrilla juncea*), rated as an "A" pest on the State Noxious Weed List, occurs within Section 26, Township 14 North, Range 12 East within a portion of the Ralston Fire burned area along the 96-17 road. There is also a known infestation of spotted knapweed (*Centaurea maculosa*), rated as an "A" pest on the State Noxious Weed List, occurs within Section 23, Township 11 North, Range 12 East, along the Chicken Hawk road. It is likely that mature seeds were present on these plants during the fire. These plant reproduces by seed. No other noxious weed species are known to occur within the Ralston Fire burned area; but if dormant seeds of other noxious weeds (previously undetected) are present it is possible that fire effects to soils and ground cover could promote post-fire germination.

B. Findings Of The On-The-Ground Survey

Known information was verified on the ground within the Ralston Fire burned area as described above under part A 'initial concerns'. Areas where fire suppression equipment was used were inspected for potential noxious weed risk, from introduction of plant parts and any soil disturbance. No noxious weed plant parts were found at the locations inspected at this time.

II. Emergency Determination

A potential emergency may be caused by the Ralston Fire in relation to noxious weeds.

III. Treatments to Mitigate the Emergency

A. Treatment Type: Detection surveys for invasive plants and monitoring of skeleton weed and spotted knapweed.

B. Treatment Objective: To locate any new occurrences of noxious weeds and to monitor the post-fire response of the existing dalmation skeleton weed and spotted knapweed.

C Treatment Description: Continued treatment of skeleton weed and spotted knapweed by GPS/mapping of infestation; and detection of any new species occurrences, concentrating efforts along travel routes, dozer lines, and areas where equipment was used. Submit report to Regional BAER Coordinator and evaluate the need for further action.

D. Treatment Cost:

Fiscal Year 2007

GS-11 Biologist:	$400/day x 2 day = $800
GS-09 Asst. Wildlife technician:	$300/day x 1 day = $300
GS-05 Forestry Technician:	$200/day x 1 day = $200
Mileage:	300 miles @ $0.45/mile = $135

Total for first year survey: $1,435

Fiscal Year 2008
(similar expected costs to FY2007)

IV. Discussion/Summary/Recommendations

It is the intent of the Forest Service to prevent or minimize the establishment of noxious weeds and invasive plants within the Ralston Fire burned area and adjacent land. It is necessary to conduct monitoring and detection surveys along an estimated 5 miles of dozer lines and 2 miles of handlines to evaluate the potential spread from the existing infestation of skeleton weed and spotted knapweed and from the fire suppression activities for approximately 2 years to determine the fire's potential impact on weed populations within the burned area. If the monitoring shows an increase in skeleton weed and spotted knapweed or detects any other species of noxious weed as a result of the Ralston Fire, there may be the need for further treatment.

APPENDIX C
RALSTON FIRE Roads and Trails Specialist Report

Resource: Engineering: Roads and Trails
Fire Name: Ralston Fire Month/Year: September 2006

Author Name(s): R. Scott Husmann, Melissa Hallas, PE
Author Title: District Road Manager
Author Duty Station: American River Ranger District, Tahoe National Forest

I. Resource Condition Assessment

The Ralston Fire burned in very steep terrain in lightly roaded areas of the Tahoe and Eldorado National Forests. The road system through the burned area is characterized as two major Forest System Roads on the canyon walls that climb up to the ridge tops. Roads on the ridge tops provide local access to private and national forest timber lands as well as several smaller residential parcels. The two major roads, Mosquito Ridge Road and Blacksmith Flat Road, provide the access for the operation and maintenance of Placer County Water Agency's Middle Fork American River Project that supplies water and power to Placer County in addition to flood control for the Central Valley.

A. Initial Concerns:

1. The fire burned or damaged traffic safety devices, warning and control signs on the roads.

2. Loosened rock and debris on the slopes above the road will fall into the travel way closing the road and posing a threat of striking or trapping people and vehicles.

3. Coming seasonal rains and spring snow melt will increase the amount of debris released from the slopes above the road and increase the risk of injury to people on the road. Larger rocks, logs, and debris will fall onto the road compared to what's currently being experienced with the dry ravel deposits.

4. Falling rock and debris will fill roadway ditches and plug culverts increasing the risk of fill slope failures and washouts, particularly on Mosquito Ridge and Blacksmith Flat Roads.

5. High intensity burn on the slopes above the roads has killed much of the vegetation increasing the risk of landslide and cut slope failure.

6. High intensity burn on the road fill slopes has killed vegetation increasing the risk of fill slope failure.

7. The concern is maintaining continued access to PCWA's Middle Fork American River hydro electric facilities, access for restoration and timber salvage on private and national forest lands, access for residents in the Big Oak Flat area, and access in general to all the forest users to the northern portion of the Georgetown Ranger District and the southern portion of the American River Ranger District.

8. There are hazard trees and other conditions from the fire that pose a threat to public safety on the two foot trails, Mosquito Ridge Trail and North Fork Middle Fork American River Trail.

B. Findings of the on-the-ground survey

<u>Summary of findings</u>:

1. On Mosquito Ridge Road fire burned or made unserviceable 87 road object markers and delineators, 19 traffic warning and regulatory signs, 13 wooden guardrail posts and a 10' section of steel retaining wall. These are important safety features for all users.

This concern on Blacksmith Flat Road does not present an urgent need as well as other local roads in the burned area.

2. On Mosquito Ridge Road, falling rock and debris caused fire officials to close the road several times during fire suppression. Five sites between Circle Bridge and Little Oak Flat roads continue to spill small amounts of dry ravel onto the road. That will likely continue spill onto the road from those debris chutes. The dry ravel is mostly ash, dust, dirt and gravels up to about 2-inch size class.

On Blacksmith Flat Road this was found not to be a concern as well as other local roads in the burned area.

3. It is very likely that large rocks and debris will fall into the road. Similar conditions can be found along Mosquito Ridge Road north of the burned area. The rainy season is from late October through the end of May. The average number of days of rain during this period is 9 days per month since 2000. The 2005 – 2006 rainfall at the local Forest Service weather station recorded over 90" of precipitation.

4. There are 141 culverts and about 10.7 miles of road way ditches on Mosquito Ridge Road, 13 culverts and 8 miles of ditches on Blacksmith Flat Road and about 55 culverts and 5 miles of ditches on other roads inside the burned area. The coming seasonal rains will likely cause a high amount of debris to fall into the ditches and wash into culvert basins plugging both the culverts and the ditches. This increases the probability of a major road failure and sediment production. That concern is likely to persist through the entire rainy season. Although it is difficult to predict which ditches or culverts may become plugged, reviews of the roads suggest that blockages would likely lead to costly and dangerous pipe and fill slope failures and possible long term loss of use of roads. Snow packs are generally light and short in duration to none in the burned area.

5. This condition was found not to be a concern.

6. This condition was found not to be a concern.

7. The BAER team did on-site reviews of the two major roads. We stopped and talked over five different sites of concern in particular, and for the roads overall. It was determined that the two major roads could be kept open by addressing the other concerns for safety and property protection.

8. There is the risk of falling debris, unstable trail tread, stump holes and hazard trees on both trails.

II. Emergency Determination

The conditions affecting the roads pose a threat to life and property.

III. Treatments to Mitigate the Emergency

A. Treatment Type

#1. Replace fire damaged signs and guardrail post listed above.

#2. Keep debris cleared from Mosquito Ridge and Blacksmith Flat road surface.

#3. Keep large debris cleared from Mosquito Ridge and Blacksmith Flat Road surface. Place warning and advisory signs. Be prepared to close road during rain events.

#4. Install 3 new culverts on Mosquito Ridge Road at mile post 12.9. Keep debris cleared from roadside ditches and culvert inlets.

#5. None needed.

#6. None needed.

#7. Treatments #1, 2, 3, and 4 above.

#8. Install trail closure signs

B. Treatment Objective

#1. Public Safety

#2. Public Safety

#3. Public Safety

#4. Protection of road fill slope, public property, and natural resources.

#7. Protection of access to important public and private facilities.

#8. Public Safety

C. Treatment Description

#1. Use force account crews to replace signs and guardrails. Purchase sign and guardrail materials locally. Use existing inventory of object markers. Use existing supply of bin wall stock to replace damaged section.

#2. Perform twice daily patrol and slough removal with blade truck during rain events and once after each rain on 11 miles of Mosquito Ridge Road and 8 miles Blacksmith Flat Road.

#3. Perform twice daily patrol and slough removal with blade truck during rain events and once after each rain on 11 miles of Mosquito Ridge Road and 8 miles Blacksmith Flat Road. Remove larger material and slides with front end loader. Haul to disposal site. Perform periodic geologist/ road management visits to review and adjust treatment.

#4. Perform twice daily patrol and slough removal with blade truck during rain events and once after each rain on 11 miles of Mosquito Ridge Road and 8 miles Blacksmith Flat Road. Remove larger material and slides with front end loader. Clear roadway ditches with front end loader. Clear culvert inlets with backhoe. Haul to designated disposal site. Perform periodic geologist/ road management visits to review and adjust treatment.

#7. Treatments #1 to #4 above accomplish access objective.

#8. Post trail closure signs on the existing trailhead signs

D. Treatment Cost – Unit Cost

#1

Replace 19 signs and post:	19 X $150 = $2,850
Install 87 object markers:	87 X $10 = $ 870
Replace 13 guardrail posts:	13 X $300 = $3,900
Install bin wall:	1 X $3,000 = $3,000
	$10,620

#2 - #4 65 days from mid October to mid April

Culvert installation	3 X $12,000 = $36,000
FS Backhoe -$150 daily	65 X $150 = $ 9,750
FS Blade truck $20 mileage / day	65 X $20 = $ 1,300
FS 10 yd Dump $50 mileage / day	25 X $50 = $ 1,250
Cat 938G, 3 yd loader monthly rental	6 X $5250 = $31,500
Laborer	65 X $175 = $11,375
Operator, loader	65 X $275 = $17,875
Operator, backhoe	65 X $275 = $17,875
Foreman, driver	25 X $375 = $ 9,375
Geologist / Technical	20 X $400 = $ 8,000
	$142,300

#8

Install trail closure signs	2 X $150 = $ 300