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File Code: 2520-3
Route To: (2520)

Date: January 7, 2009

Subject: Interim BAER Report # 1 - Telegraph Fire

To: Regional Forester, R5

Attached is interim BAER Report # 1 to re-treat heritage site protection measures on the Telegraph fire. This involves cleanout and repair of existing silt fences, and application of additional straw where needed. The total request is $ 3,790. See part H, Treatment Narrative and Part I, Monitoring Narrative (in red italics) for a brief description of this request. The attached Heritage Monitoring Report dated 12-3-2008 provides the rationale for and a detailed description and cost of re-treatment. Please contact Sharon Grant, Forest Hydrologic Technician for more information.

SUSAN SKALSKI
Forest Supervisor

cc: Sharon Grant, James Frazier, Margaret Dowd, Deb Romberger, Brent Roath

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

Date of Report: 01/07/2009

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

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

[X] 2. Interim Report # 1
[ ] 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: Telegraph

B. Fire Number: CA-MMU-009779

C. State: California

D. County: Mariposa

E. Region: 05 – Pacific Southwest

F. Forest: Stanislaus

G. District: Groveland

H. Fire Incident Job Code: PNEDS4-1502

I. Date Fire Started: 07/25/2008

J. Date Fire Contained: 08/06/2008

K. Suppression Cost: estimates cost as of 08/07/08 $ 38,350,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): see item 3 below
2. Fireline seeded (miles): None
3. Other (identify): The suppression repair consists of waterbaring, spreading of slash and blocking access to dozerlines with slash.

Sum of Length_mi	
FLType	Total
Completed Dozer Line	38.89
Completed Line	3.72
Grand Total	42.62

M. Watershed Number: the table below shows the watersheds on Forest Service Lands that were effected by the fire.

Sum of Acres			
HUC6_NAME	HUC7_NAME	HUC7	Total
Lower North Fork Merced River	Lower North Fork Merced River South	18040008050303	7511
Merced River-Neds Gulch	Lower Neds Gulch	18040008040102	8223
Merced River-Saxon Creek	Upper Halls Gulch	18040008040301	5612
Grand Total			21345

N. Total Acres Burned: 34,115 acres
NFS Acres(3,765) Other Federal (20,974) State (73) Private (9,303)

O. Vegetation Types: The plant communities in the burned area are Northern Mixed Chaparral, Chamise Chaparral and Knobcone Pine Forest. Beyond the burned area, in the Kinsley and Date Flat areas affected by contingency dozer line construction, Westside Ponderosa Pine Forest is present in addition to Northern Mixed Chaparral and Knobcone Pine Forest. The Trumbull area dozer line traverses Westside Ponderosa Pine Forest and Northern Mixed Chaparral.

P. Dominant Soils: Typic Haploxerults and Lithic Dystroxerpert

Q. Geologic Types: Metasedimentary

R. Miles of Stream Channels by Order or Class:

Sum of Length_mi	
Streams	Total
STREAM- INTERMIT/WASH- NARROW	10.28
STREAM- PERENNIAL- DOUBLE-LINE	0.30
Grand Total	**10.57**

S. Transportation System

Trails: 0 miles Roads: 8.86 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): below is the burn severity acres within the fire boundary. These acres were derived from the Burned Area Reflectance Classification (BARC) image data, supplied by the Remote Sensing Application Center (RSAC).

Sum of Acres	GRIDCODE				
OWNERSHIP	1	2	3	4	Grand Total
BLM	1,481	2,957	14,782	1,754	20,974
PRIVATE	958	2,422	4,928	994	9,303
STATE LAND COMM	27	27	20		73
USFS	200	421	2,673	470	3,765
Grand Total	2,665	5,828	22,404	3,218	34,115

Gridcode = Initial BARC Soil Burn Severity
1 = Unburned
2 = Low
3 = Moderate
4 = High

B. Water-Repellent Soil (acres): N/A

C. Soil Erosion Hazard Rating (acres): N/A
___ (low) ___ (moderate) ___ (high)

D. Erosion Potential: ____ tons/acre: N/A

E. Sediment Potential: ____ cubic yards / square mile: N/A

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): N/A

B. Design Chance of Success, (percent): N/A

C. Equivalent Design Recurrence Interval, (years): N/A

D. Design Storm Duration, (hours): N/A

E. Design Storm Magnitude, (inches):

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

G. Estimated Reduction in Infiltration, (percent): N/A

H. Adjusted Design Flow, (cfs per square mile): N/A

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Telegraph Fire burned approximately 4,000 acres on Forest Service Lands. There are no structures with in the fire area and the road infrustructure is minimal. Adjacent land ownership is BLM. Approximately fifteen archeological sites are of concern. There is an increased risk of weed introduction and spread in the fire area from related fire lines and road access.

Water/Soil – after initial recon by the Groveland District Specialists it was determined that there were no soil productivity or water quality related values at risk.

Roads – after initial recon by the Forest Road Engineer, roads and road drainage facilities were determined not to be at risk from increased runoff potential. Most of the roads in the fire area are Level 1 (closed), the remainder of the roads were used for fire supression activities. Damage to these roads along and near the fire peremiter (i.e.; fire lines) will be repaired with the P code.

Threatened and Endangered Species (Botany) – There is no emergency for the Valley Elderberry Longhorned Beetle as a direct result of the fire. However, weed introduction and spread as a result of fire suppression activities could reduce the quality of the habitat from high quality to low quality. A dense infestation of a noxious weed such as yellow star-thistle could inhibit the germination of blue elderberry seed and reduce the quality of the habitat for the original plants.

Sensitive plants – There is no emergency for Sensitive Plants as a direct result of the fire. Only one species, *Horkelia parryi,* is known from the burned area. This species was dormant at the time of the fire and is adapted to the frequent fire regime. It recovers well from in-season burning. However, weed introduction and spread as a result of fire suppression activities could reduce the quality of the habitat from high quality to low quality. A dense infestation of a noxious weed such as yellow star-thistle could greatly reduce or eliminate occurrences of *Horkelia parryi.* Many of the occurrences of *Horkelia parryi* were impacted by dozer operations. It is important to prevent weed establishment in remaining occurrences.

Plant Species Composition (Noxious weeds) – There is an emergency for noxious weeds. The fire created conditions conducive to the spread of the noxious weeds known to be within and adjacent to the fire area. Furthermore, suppression activities have likely vectored noxious weed seed from one or more locations. Heavy equipment was not cleaned prior to coming to the National Forest during suppression activities until a week into the suppression effort. The equipment came from all over the State and had potential to bring in a variety of noxious weeds. Additionally, dozer lines were constructed through known yellow star-thistle sites and the weed was spread along the dozer lines. Ecosystem integrity is at risk of being diminished as a result of new weed introductions and weed spread.

Archaeology – There are six Class II heritage sites that are subject to loss of integrity as a result of the Telegraph fire. All sites are along Halls Gulch and its tributaries and consist of prehistoric lithic scatter and bedrock milling stations, as well as a historic settlement site. These sites are at risk of damage from erosion (see the Heritage Specialist Report for specific details). Manual direction states that all Class II sites be afforded the same consideration and protection as Class I sites (which have been evaluated as significant) until that evaluation takes place (FSM 2361).

Resource Protection and Safety (Recreation) – Resource recovery might be slowed by unauthorized OHV use in the fire area and the spread of weeds to firelines in and around the fire area may occur. The fire and fire suppression activities created large open areas for OHV use to occur. The fire suppression rehab team is waterbaring, covering lines with debris, and blocking access where there is material available.

Value Category	Hazard	At Risk	Emergency Yes/No	Recommended Treatments/Notes
Water Quality, Soil Productivity	Increased runoff	Beneficial uses of water, soil loss/displacement	No	There are no values at risk that would constitute an emergency
Property- Forest Service Transportation System	Flooding and erosion	Forest roads and drainage facilities	No	None
Plant Communities	Introduction or spread of invasive weeds	Habitat degredation for Horkelia parryi	No	None
Ecosystem Structure and Function	Introduction or spread of invasive weeds	Species Composition change, loss of native vegetation	Yes	Weed Detection Surveys
Heritage Resources	Postfire erosion and vandalism	Loss of integrity of 6 Class II Heritage sites	Yes	Silt fences directly above sites, hand straw mulch lithic scatter sites
Resource Protection and Safety	Unauthorised OHV use	Resource recovery (dozer lines), spread of weeds	Yes	3 resource recovery info. signs; 2 on Briceberg Road (Kinsley Station and intersection of 2S05C), and 1 on 2S03-Soapstone Ridge.

B. Emergency Treatment Objectives: Reduce the risk of degredation of significant natural and cultural resources.

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

Land **90** % Channel ___ % Roads/Trails ___ % Protection/Safety **90** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	100	100
Channel	N/A		
Roads/Trails	N/A		
Protection/Safety	90	100	100

E. Cost of No-Action (Including Loss): $1,604,520

F. Cost of Selected Alternative (Including Loss): $28,451

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Sharon Grant

Email: sgrant@fs.fed.us Phone: 209-532-3671 x231 FAX: 209-536-1980

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:

Heritage Sites – To maintain site integrity and allow for vegetation regrowth, Silt fences will be installed to trap sediment and soil erosion on 5 of the 6 sites at risk, and weed free straw will be placed by hand on 4 sites with lithic scatter at risk. During treatment implementation an archaeologist should be present to monitor each cultural site to ensure protection. See the Heritage Specialist Report for complete details of specific site implementation.

Interim # 1 Heritage Sites

After the first monitoring effort it became evident that there is a need to re-treat 3 of the 6 sites. Re-treatment will include cleanout and repair of silt fences and additional straw application where needed. See the Heritage Monitoring Report dated 12-3-2008 for specific site treatment details.

Noxious Weeds – Noxious weed detection surveys are proposed to determine if noxious weed invasion will occur in the fire area. There is a strong liklihood of this occurance due to an extremely high density of fire suppression activities and lack of equipment cleaning prior to entering the fire area. About 38 miles of dozer lines were constructed for suppression activites, this includes several roads and associated staging areas. Many areas outside the

fire perimeter contained noxious weeds through which vehicles and equipment were driven prior to entering the fire area. Cost estimates for the proposed monitoring are for the first year (2009) and reflect hiring personnel for the task. If existing employees are available the cost could decrease, but at this time it is likely that the existing workforce will be fully occupied with other work priorties. See the botany specialist report for weed detection plan details.

Channel Treatments: None

Roads and Trail Treatments: None

Protection/Safety Treatments:

Resource Protection – to protect natural resources while recovering and to inhibit additional weed spread three signs will be installed at the main vehicle access points to the fire area. Briceberg Road will need two signs, one at the Kingsley Station (north of the fire) and one entering Forest Service Land from BLM at the intersection of FS Road 2S05C (south of the fire). The third sign will be installed on FS Road 2S03 Soapstone Ridge (N/W ¼ of Sec 12, T3S, R18E). These signs will direct visitor access and include information about natural resource recovery from fire and fire suppression activities.

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.)

Heritage Sites

For the Telegraph Fire heritage resource site treatments, implementation monitoring shall take place immediately after implementation. It shall consist of collecting GPS points at each silt fence location, photo documentation of treatments, and soil transects to determine if mulching objectives were met. Effectiveness monitoring shall take place after a significant precipitation event. It shall consist of measuring the cut bank at site 05-16-54-446 for continued erosion; inspection of silt fences; photo documentation of treatments; and soil transects to determine if there is still adequate soil cover from mulch treatment. See the attached Heritage Resource Treatment Implementation and Effectiveness Monitoring Plan for complete details of monitoring.

Interim # 1 Heritage Sites

After the first monitoring effort it became evident that there is a need continue monitoring treatments after each major storm to insure the treatments are effective. See the Heritage Monitoring Report dated 12-3-2008 for specific monitoring details.

Part VI – Emergency Stabilization Treatments and Source of Funds Interim # 1

Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
Silt Fence (materials)-Heritage	each	$25.00	25	$625	$0		$0		$0	$625
Straw Mulch-Heritage	bales	$13.85	60	$831	$0		$0		$0	$831
Heritage Treatment Installation	days	$945.00	5	$4,725	$0					
Heritage Treatment Removal (silt fence)	days	$945.00	2	$1,890	$0					
Weed Detection Survey	days	$265.00	25	$6,625	$0					
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$14,696	$0		$0		$0	$1,456
B. Channel Treatments										—
				$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
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
Resource Protection Signs	each	$330.00	3	$990	$0		$0		$0	$990
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$990	$0		$0		$0	$990
E. BAER Evaluation										
Assessment Team				$7,150						
Insert new items above this line!				—	$0		$0		$0	$0
Subtotal Evaluation				$7,150	$0		$0		$0	$0
F. Monitoring										
Heritage Site Protection Implementation and Effectiveness	days	$220.00	3	$660	$0		$0		$0	$660
G. Interim # 1										
Heritage site re-treatment	*days*	*$473.75*	*8*	*$3,790*	*$0*					
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$4,450	$0		$0		$0	$660
G. Totals				$27,286	$0		$0		$0	$3,106
Previously approved				$23,496						
Total for this request				$3,790						

PART VII - APPROVALS

1. Susan Skalski — Forest Supervisor (signature) — 1-7-09 — Date

2. _____ — Regional Forester (signature) — _____ — Date

MONITORING REPORT & REQUEST FOR ADDITIONAL FUNDS TO RE-TREAT HERITAGE SITE PROTECTION ON THE TELEGRAPH FIRE

Prepared by: Priscilla Riefkohl, Groveland District Archaeologist, 12/3/2008

Reason for BAER treatments at selected heritage resource sites:

Forest Service Manual (FSM 2523.02) provides for the treatment of heritage resources as part of BAER, stating "...implement emergency treatments ...to stabilize and prevent unacceptable degradation to critical ...cultural resources." Consideration of potential effects of emergency stabilization measures on heritage sites is also an appropriate BAER activity (FSM 2523.2).

The BAER team identified six Class II heritage resource sites in the high severity burn area of the Telegraph Fire that were at risk of hill slope erosion and loss of integrity. All sites are along Halls Gulch and its tributaries and consist of prehistoric lithic scatter and bedrock milling station sites, as well as a multi-component historic settlement site. Other types of adverse effects such as gullying, sedimentation, and debris flow channels were found not to be an issue in all but one of the sites. In addition, one site posed a moderate risk of vandalism/looting.

FS Manual direction states that all Class II sites (which are classified as heritage resource sites whose NRHP status is unknown or unevaluated) be afforded the same consideration and protection as Class I sites (which are those historic or prehistoric resources determined eligible to the National Register of Historic Places per criteria 36 CFR 60.4) (FSM 2361).

In an effort to protect the sites two treatments were prescribed and implemented: (1) one consisted of the placement of silt fences or straw waddles along the hill slope above the sites. The purpose being to trap sediment eroding down from the hill slope to the site. (2) the second consisted of spreading straw mulch over the sites. The purpose being to provide immediate ground cover and help reduce surface erosion. The straw mulch also provides protection of sensitive artifacts from vandalism/looting.

Monitoring results and proposed re-treatment:

Guidance in Forest Service Manual (FSM 2523.3) provides that "monitoring is done to verify the implementation of emergency stabilization treatments and observe the site-specific effectiveness and functioning of treatments in order to determine if additional treatments are needed. Below is a summary of observations made while monitoring the BAER sites on November 5-11, 2008; after a storm which dropped between 3 and 4 inches of rain over the course of 3 to 4 days passed over the burn area:

Site 05-16-54-446:

- Every fence was noted as having some silt in it, some more than others. At least three showed signs of significant strain from the weight load.
- One fence that was filled significantly [the easternmost fence on the top row] also had a 1.5 meter spillway/erosion channel formed below it which continued down and through the lithic scatter area.
- The straw mulch surface treatment has washed down from the upper 1/3 of the treatment area and has clumped together and migrated down slope.
- *Proposal:* (1) Use five-gallon buckets to carefully empty out all the fences. (2) Repair three saggy fences by installing an additional rebar for support. (3) The site could use about 1 bale of additional straw cover.

Site 05-16-54-447:

- The fences on the site, although many full, seem to be doing a good job of keeping channels and sedimentation from reaching the lithic scatter.
- Every fence was noted as having some silt in it, some more than others. At least three showed signs of significant strain from the weight load. The uppermost fence and the westernmost fences showed significant soil accumulation. The western fence of the middle row is in the worst shape. Several drainage channel drain down to them.
- The straw mulch surface treatment was spotty and clumped, but in relatively good shape.
- *Proposal:* (1) Use five-gallon buckets to carefully empty out three of the fences. (2) Repair two saggy fences by installing an additional rebar for support. (3) Install a new fence west of the uppermost and above the western middle fence in order to alleviate pressure on the western middle row fence (note: one of the easternmost fences from the bottom or middle row could be moved to this new location). (4) The site could use about 1/2 bale of additional straw cover.

Site 05-16-54-450:

- The site is in very good condition and shows minimal signs of erosion and sedimentation issues.
- The site had been treated with wattles and straw mulch. The wattles showed little soil accumulation and although a bit spotty, straw coverage was still adequate.
- *Proposal:* Nothing further is recommended, but the site should continue to be monitored.

Site 05-16-54-455:

- The site is in very good condition and shows minimal signs of erosion and sedimentation issues.
- The site had only been treated with straw mulch. Nearly all of which was still in place.
- *Proposal:* Nothing further is recommended, but the site should continue to be monitored.

Site 05-16-54-456:

- Erosion channels have undercut the straw wattles, but none appear to reach the lithic scatter below the slope.
- Other that a few instances of undercutting, the wattles seem to be doing a good job of protecting the scatter from sedimentation and erosion impacts.
- The straw mulch surface treatment has clumped together and the coverage has migrated down slope to the Gulch.
- *Proposal:* (1) The site could use about ½ a bale of additional straw cover. (2) The undercutting should continue to be monitored. If the undercutting continues, as it likely will, some form of mitigation should be performed to counteract the undercut.

Site 05-16-54-467:

- The western half of the site was found top display severe erosion problems. Nearly all of the straw wattles were undercut by erosion channels multiple times. Two were not undercut, but had significant soil accumulation. The channels, one of which is significant, have cut through the original lithic scatter area.
- The eastern half of the site had minor erosion channels that do not pose an issue. However, a small channel formed on the slope above the BRM which although currently is not an issue, has the potential to cover the BRM with sediment if erosion continues.
- The straw mulch treatment was spotty and clumped together.
- *Proposal:* (1) It is unclear what can be done to protect the western half of the site now that the erosion channels are formed, undercut the wattles, and travel through the site. The recommended action is to evaluate the site through a CARIDAP in order to determine if the site is eligible to the NRHP and the Forest needs to continue managing it. Because BAER does not cover evaluation of sites, this work will need to be funded with Forest funds. (2) However, if treatment of the site is the chosen option, installing silt fences on the hill slope may protect the site from further erosion, but due to the extreme erosion problems, would require a significant amount of monitoring and work after each storm: dig out fences, reevaluate treatment, and come up with new protection measures. Currently the site could use about 1.5 bale of additional straw cover.

Risk involved if re-treatment does not occur:

The high severity burn in areas within and around these sites has caused the loss of organic litter, which accelerates runoff effects. At the selected sites, topsoil and ashes which are located on hill slopes as well as water runoff are considered a threat to features on lower slopes. The erosive soil movement and channeling/undercutting caused by subsequent storm precipitation may completely bury the historic and archaeological resources or alter the context of surface and subsurface cultural remains vital to any scientific analysis or interpretation. It is important to remember that Heritage Resource sites are a non-renewable resource. If no action is taken to protect the sites, valuable historical and scientific information could be lost.

After the first monitoring effort it became evident that there is a need to do continuous monitoring and possible repairs to the treatments after each major storm in order to protect the heritage resource values at risk. This work should continue until the ground naturally stabilizes. As the natural vegetation grows back, it will serve the same function as the prescribed treatments, and monitoring shall become unnecessary.

Time and Cost Estimate for additional monitoring and re-treatment:

The estimate below assumes it should take a two-person crew 2 days to do monitoring and repair efforts at three of the aforementioned heritage sites [05-16-54-446, -447, and -456] after each major storm.

Salaries for re-treatment and additional monitoring

- 2 days fieldwork for two-person crew x 4 visits = 8 days work
  - GS9 Archeologist @ $25/hr x 64hrs = $1,600
  - GS9 Soil Scientist @ $25/hr x 64hrs = $1,600
- 1 day report write-up
  - GS9 Archeologist @ $25/hr x 8hrs = $200
  - GS9 Soil Scientist @ $25/hr x 8hrs = $200

Total salaries estimate = $3,600

Mileage

- 2 fieldwork days x 4 visits
  - 50 miles/roundtrip x 8 round trips @$0.35/mile

Total mileage estimate = $140

Miscellaneous Supplies

- Buckets, rebars, cloth, wire, etc.

Total supplies estimate = $50

Total cost estimate = $3,790