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Author: R.Griffith Typist: C.Winkler

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Subject: 2520/6520 - BAER - Wild Fire - Los Padres NF

Summary:

Comments:

Mailed to:
R.Simmons

To	Mailroom:R05F07A	CC	R.Griffith
CC	PDB	CC	FAM
CC	WSA:WO	To	K.Clement

From: ARF-Ecosystem Cons
Postmark: Oct 24,96 2:55 PM
Status: Previously read
Subject: 2520/6520 - Authorization BAER, Wild Fire - Los Padres

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Comments:
This is a 12 page document.

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File Code: 2520/6520 Date: October 24, 1996

Subject: Authorization for Expending Burned-Area Emergency Rehabilitation Funds (WFSU-FW22) - Wild Fire

To: Forest Supervisor, Los Padres National Forest
Assistant Regional Forester, Ecosystem Conservation

Attached is the approved Burned-Area Emergency Rehabilitation Report for the Wild fire. It documents that significant risks to life, property, and significant resource values exist as the result of the fire. Although the majority of the area burned at low intensity, nearly ten thousand acres have some increase in soil water repellency as the result of the fire. From this a 1.5 fold increase in storm peak flows are expected in area streams, with sediment increases of over 4 fold expected.

The Forest Supervisor, Los Padres National Forest is authorized to expend up to $198,350 of WFSU-FW22 funds at this time for the emergency rehabilitation treatments indicated in Part VI of the enclosed FS-2500-8 report. If yet to be completed stream surveys identify additional emergency treatments that are needed to protect aquatic resources, an Interim Burned Area Report will be necessary for authorization for such treatments.

Given the late season timing of this fire, and the magnitude of the emergency conditions, every effort needs to be made by the Forest and Province to implement these emergency treatments as quickly as possible. Special provision for emergency procurement and contracting has been made by the Chief effective September 13, 1996 to assist in expediting BAER work.

The Assistant Regional Forester for Ecosystem Conservation is authorized to expend up to $1,650 of WFSU-FW22 funds at this time for BAER evaluation and administration.

/s/Margaret Pasholk (for)

REGIONAL FORESTER TEAM

Enclosure

cc: PDB
ARF FAM
WSA:WO
R.Griffith
USDA NRCS State Conservationist, Davis, California
California Department of Forestry and Fire Protection,
Headquarters, Sacramento, California.
State of California, Department of Fish and Game, Sacramento, California

(acting for ARF, EC)

United States Department of Agriculture | Forest Service | Los Padres National Forest | 6144 Calle Real
Goleta, CA 93117
805-683-6711
TDD: 805-967-4487

Reply to: 2520 **Date:** October 22, 1996

Subject: Wild Fire Burned Area Report

To: Regional Forester

The initial Burned Area Report (Form FS 2500-8) for the Wild Fire is attached. The initial report serves as the Forest request for $198,350 to fund the BAER Team, road and trail work, facilities protection, stream survey, signs, work to protect archaeological sites and to purchase air photos for on and off site fire damage analysis.

/s/ DW Dahl
DAVID W. DAHL
Forest Supervisor

cc: Bruce Emmens, Monterey District Ranger

USDA-FOREST SERVICE Ref. 2520 Watershed Date of Report: **Oct. , 1996**

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

PART I - TYPE OF REQUEST

A. Type of Report

[x] 1. Funding request for estimated EFFS-FW22 funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[x] 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 and design analysis
[ ] Status of accomplishments to-date

[ ] 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: **Wild** B. Fire Number: **LPF 993**

C. State: **California** D. County: **Monterey**
E. Region: **05** F. Forest: **Los Padres (07)**
G. District: **Monterey (51)**

H. Date Fire Started: **10/7/96** I. Date Fire Controlled: **10/18/96**

J. Suppression Cost: **11.8 million (10/18/96)**

K. Fire Suppression Damages Repaired with EFFS-PF12 Funds:
1. Fireline waterbarred (miles) **21 miles**
2. Fireline seeded (miles) **0**
3. Other (identify) **20 acres (fire camp/helibase) disking, remove bulldozed material from swales and drainages and place back on approximately 1.6 miles of tractor line (excavator)**

L. Watershed Numbers: **Nacimiento River (1806000503)**
Ocean Front (1806000601)

M. NFS Acres Burned: **12,390 Los Padres NF** Total Acres **25,590**
Ownership type:
(**0**)State (**0**)BLM (**400**)PVT (**12,800 Fort Hunter Ligget**) FHL

N. Vegetation Types: **Coastal bluff scrub, redwood forest, valley oak savanna, mixed evergreen forest, oak forest, knob cone pine stands, ponderosa pine stands, northern mixed chaparral, chamise chaparral, blue oak/grey pine woodland**

O. Dominant Soils: **Cienaba, Gamboa, Gaviota, Gazos, Junipero, McMullin, Millsholm, San Andreas, and extensive areas of rock outcrop**

P. Geologic Types: **Primarily Metasedimentary (sandstone, shale), plus minor amounts of granitic rock**

Q. Miles of Stream Channels by Class:

USFS	I. **13**	II. **38**	III. **7**	IV. **46**
FHL	I. **11**	II. **25**	III. **3**	IV. **61**

R. Transportation System:

Trails: **27** (miles)

Roads:

NFS	17.3	(miles)
FHL	21.5	(miles)
Monterey Co.	2.9	(miles)
Highway 1	5.0	(miles)
PVT	2.0	(miles)
TOTAL	48.7	(miles)

PART III - WATERSHED CONDITION

A. Fire Intensity (Acres): **18141** (low/unburned) **5138** (moderate) **2602** (high)

B. Water Repellant Soil (acres): 9585

C. Soil Erosion Hazard Rating (Acres):

0 (low) **690** (moderate) **25196** (high/very high)

D. Erosion Potential: **53.8** tons/acre

E. Sediment Potential: **16.2** cu. yds/sq. mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 3 years.
B. Design Chance of Success: 78 percent.
C. Equivalent Design Recurrence Interval: 10 years.
D. Design Storm Duration: * hours.
E. Design Storm Magnitude: * inches.
F. Design Flow: ** cfsm.
G. Estimated Reduction in Infiltration: ** percent.
H. Adjusted Design Flow: ** cfsm.

* Design Flows determined using USGS WRI 77-22 "Magnitude and Frequency of Floods in California", 1977, these factors were not necessary for calculations.
** See chart below:

Watershed	F.Design Flow cfsm	G.Infiltration Reduction %	H.Adjusted Design Flow cfsm
Mill Creek Cr	.05	0.0	.05
Wild Cattle Cr	.06	20.0	.07
Prewitt Cr	.05	10.0	.06
Ocean Front	.06	10.0	.07
Negro Fork Nacimiento R	.53	30.0	.67
San Miguel Cr	.50	50.0	.75
Anthony Cr	.54	30.0	.70
Nacimiento R	.46	10.0	.49

PART V - SUMMARY OF ANALYSIS

A. Describe Emergency:

On October 7, 1996 a wild fire occurred south of the Nacimiento-Fergusson road and burned about 25,590 acres. The fire was named the Wild Fire and burned aggressively making runs to the east and south. The fire was officially called controlled at 1800 on October 18, 1996. The soil erosion hazard is high or very high over more than 90 percent of the area and in addition some of the fire area geology has a high potential for landslide activity. The loss of protective ground cover is expected to accelerate erosion from sheet and rill as well as dry ravel and other forms of mass movement. Approximately 18,141 acres (70 percent) were burned at low intensity or unburned, 5138 acres (20 percent) were burned at moderate intensity, and 2602 acres (10 percent) were burned at high intensity. The fire increased soil repellency on about 9585 acres (37 percent) which will substantially reduce infiltration rates in these watersheds.

Peak flows are expected to increase up to 1.5 times normal and sedimentation is expected to increase up to 4.7 times normal in the first year following the burn. Nacimiento Reservoir, which is a major storage basin, is expected to receive about 363,963 cubic yards of sediment in the first year.

Expected impacts to individual watersheds in burn area:

1. Negro Fork (Tributary to Nacimiento River): High potential for debris slides and high risk erosion and sedimentation on south facing slopes; damage to Slick Rock Trail is expected; increased sedimentation to Nacimiento Reservoir is expected; the wellhead at Ponderosa Campground may experience damage; there is a low risk to resident trout due to decreased water quality; Red legged Frog populations are at risk.

2. San Miguel Creek (FHL): High potential for debris slides and high risk for accelerated erosion and sedimentation; River Road and McKern Road culverts likely to fail due to blockage; increased sediment is expected into Nacimiento Reservoir; low risk of damage to historic properties; risk to resident trout and Arroyo Toad are low. There is a risk to Red legged Frog populations. There may be a risk to water diversions downstream.

3. Anthony Creek (FHL): High risk for accelerated erosion and sedimentation on south facing slopes; expect impacts to water quality and channel stability; increased sediment is expected into Nacimiento Reservoir; there are multiple historic properties at low risk; there is a risk to resident trout due to decreased water quality.

4. Nacimiento River (NFS and FHL): Threat to motorists from rock fall on Nacimiento-Fergusson road; increased sediment into Nacimiento Reservoir; culverts likely to fail due to blockage and from increased sediment east of Nacimiento Station; populations of resident trout, Arroyo Toad, and Red legged Frogs are at risk due to decreased water quality.

5. Mill Creek: Expect there will be recreational safety problems during high flows and from floating and submerged debris; some of Smith's Blue Butterfly habitat was destroyed, but is expected to recover naturally; it is expected that localized impacts on resident trout, southern steelhead, and Red legged Frogs will result due to the burn.

6. Wild Cattle Creek: Damage to historic property at mouth of Wild Cattle Creek expected; ORV activity could increase and could cause increased soil disturbance; moderate impacts to water quality from increased flows and sedimentation; expect increased recreational safety problems during high flows from floating and submerged debris; some Smith's Blue Butterfly habitat was destroyed, but is expected to recover naturally; populations of southern steelhead and Red legged Frogs are at low to moderate risk.

7. Prewitt Creek: Damage to Prewitt hiking trail expected to occur in this area; OHV access at Alms and Prewitt Ridge could result in increased soil disturbance and erosion; recreational safety problems could occur at high flows and from floating and submerged debris; damage to historic properties is expected; some Smith's Blue Butterfly habitat was destroyed, but is expected to recover naturally; populations of southern steelhead and Red legged Frogs are at risk.

8. Ocean Front: Increased risk to Highway 1 from landslide activity and rock fall; soil erosion loss expected to be high; risk of culvert failure and blockage along HWY 1 expected to be high; some Smith's Blue Butterfly habitat was destroyed, but is expected to recover naturally.

To address the above emergencies identified by the BAER Team the following objectives were identified:

Emergency Treatment Objectives:

1. Road and trail protection.
2. Reduce sedimentation off of roads and trails.
3. Keep roads and trails safe.
4. Maintain safe access to residences and recreation opportunities.
5. Insure that roadbeds can handle the additional runoff without damage.
6. Make landowners aware of potential flooding problems and hazards along with possible on-site protective measures.
7. Protect individual structures affected from the fire from high flows, sediment deposition, and debris torrents.
8. Make the State, Monterey County, Fort Hunter Liggett, and all other responsible agencies, aware of the possible hazards from increased flows, sedimentation, falling rock and land sliding.

C. Probability of Completing Treatment Prior to First Major Damage Producing Storm:
Land **100** % Channel **100** % Roads **100** % Other **100 %**

D. Probability of Treatment Success

	<----Years after treatment----->		
	1	3	5
Land	80	100	100
Channel	80	100	100
Roads	80	100	100
Other	80	100	100

E. Cost of No-Action (Including Loss): **$11,398,832**

F. Cost of Selected Alternative (Including Loss): **$2,730,880** (No Action)

G. Skills Represented on Burned-Area Survey Team:

[x] Hydrology	[x] Soils	[x] Geology	[ ] Range
[ ] Timber	[x] Wildlife	[ ] Fire Mgmt.	[x] Engineering
[ ] Contracting	[x] Ecology	[ ] Research	[x] Archaeology
[ ] GIS	[x] Fisheries	[x] Botanist	[x] Rec/Wilderness

Team Leader: **Barry Cohn**
Phone: **805-681-2767** DG Address: **R05F07A**

H. Treatment Narrative:

Treatments discussed herein are for National Forest System Lands only.

Maintenance of water control structures (rolling dips) and construction of new water control structures is to be completed on Prewitt Trail (1/2 mile) (Prewitt Creek Watershed) and on Slickrock Trail (2 miles) (Negro Fork Watershed). On Prewitt Trail up to 5 crib walls maybe required and up to seven crib walls may be required on Slickrock Trail. Crib walls are needed where drainages cross the trails to help prevent washing out of the trail and producing off-site erosion and sedimentation.

Barriers, signing, and patrol is required to keep vehicle traffic and off-highway vehicle traffic off areas opened up by the burn, that had natural vegetation barriers prior to the fire. This work is needed in the Alms/Prewitt Ridge area. Weekend patrol (60 days total), 20 signs, and 1/2 mile of temporary fencing is required. The fencing will be removed once natural vegetation barriers are re-established.

Signing, explaining safety hazards on roads and trails within and adjacent to the fire area to Forest users will be established at entry points on Plaskett Ridge Road, Coast Ridge Road, Mill Creek, and Wild Cattle Creek. A total of four signs are need for this treatment.

A 150 foot sediment/water deflection wall is needed to protect historic buildings near the mouth of Prewitt Creek. The wall will be "v" shape in design and made of wood materials. This treatment will help to prevent debris and excess runoff from adjacent burned mountainsides from damaging the historic building and site. A second 25 foot sediment/water deflection wall is required to protect the well head at Ponderosa Campground (Negro Fork Watershed) for the same reason as the one needed to protect the historic building in Prewitt Creek.

Stabilization of a second historic site in Prewitt Creek is needed. Soil stabilization is needed at the base of a slope and will be completed by using jute netting 1/2 mile long and 6 feet wide. This treatment will help to prevent the site from eroding away.

Stabilization of a 1/4 acre historic site in Wild Cattle Creek Watershed requires 600 square feet of jute netting. This treatment will help prevent the site from eroding away during the first rainy season.

Clearing of a log jam upstream of the bridge at Nacimiento Campground on the Nacimento River is needed to protect the bridge. It is estimated that 2 engine crews will need 2 days to complete the work.

Rock scaling on Nacimiento - Fergusson Road and Highway 1 is required to reduce the chance of rockfall into traffic lanes of the road and highway. Six people, one dump truck, and one front end loader are needed to complete the work at each site. (Total of 12 people, 2 dump trucks, and 2 front end loaders). The Forest Service will look for an opportunity to cost share this treatment with Monterey County Public Works Department and CALTRANS.

A survey of Mill Creek for potential impacts of the fire on fish is needed. Mill Creek supports one of several small but significant Big Sur coast viable steelhead runs. The central coast steelhead stock is in decline and is one of several steelhead stocks proposed to be federally listed. A low to moderate burn extended down into the north facing slope to the edge of the stream along

1/2 mile of the most suitable steelhead spawning habitat. If the survey identifies impacts, cost effective treatments will be developed to mitigate adverse impacts.

Storm patrol for public safety and culvert cleaning is required on Prewitt Road and South Coast Ridge Road (within and adjacent to the fire area) for the first year after the fire. It is assumed that 12 days of patrol will be needed using 2 people. In addition to helping with public safety, the treatment will help to maintain and keep the road open through the rainy season.

Seeding as a treatment alternative was also discussed by the BAER Team and agreed that based on the steep slopes and lower burn intensities and reviewing the following seeding criteria that seeding would not be a recommended treatment on National Forest System lands. There were a few in the Pacific Valley community who expressed concern about this recommendation.

POSTFIRE SEEDING CRITERIA FOR THE WILD FIRE

- No seeding on grasslands and oak/grass woodlands
- No seeding on slopes over 60% (preferably less than 50%)
- No seeding on areas with known populations or potential habitat for threatened, endangered, or Forest sensitive plant species
- No seeding on areas with plant species identified as critical habitat for threatened or endangered wildlife species
- No seeding on low burn intensity areas
- No seeding on areas where vegetation cover after two years is expected to be 30% or greater (BAER guidelines).
- Seed only where there are high downstream values
- No seeding on poor sites (high solar insolation aspects, very rocky sites)
- Use native species only to augment natural vegetation in areas believed to have depleted seed banks.
- Seed only with cool season grass species with the capacity to respond and be effective for early season storms
- Seed at a low rate

Basic Assumptions

1. The effects of grass seeding on peak flows and sediment reduction are uncertain and depend on evenly spaced, low to moderate amounts of rainfall during initial post-fire storms. Seeding will not reduce erosion and runoff from heavy precipitation that occurs early in the rainy season (State Board of Forestry Task Force on Emergency Watershed Protection 1995).

2. Seeding can increase infiltration rates which were lowered during wildfire due to the creation of a hydrophobic layer. Higher infiltration rates can have both positive and negative impacts. Positive impacts include reduced surface erosion created by rilling, sheetwash, and gullying. Disadvantages include potential increases in mass movement where risks exist due to geologic factors (primarily shallow debris sliding) (Ruby 1987, Spittler 1995, Booker et al. 1993).

3. Seeding can reduce native plant species density, cover, and diversity which in some situations can reduce a system's long-term hillslope stability (Keeler-Wolf 1995, Stone 1993, Rice 1975).

4. Grass seeding can only affect surface erosion processes (i.e., rilling and gullying). It is likely that between one-fifth and one-third of the erosion in southern California watersheds results from surface erosion. Seeding will have little impact where the major source of sediment is dry ravel or mass wasting. Similarly, downstream sediment yield may not be significantly reduced by seeding if there is very high sediment storage in stream channels that is mobilized by very high peak flows. If infiltration rates are significantly increased by seeding through interruption of the hydrophobic layer, erosion of channel deposits could be affected by grass seeding (Rice 1975, Spittler 1995).

5. On average, about 70% of the long-term sedimentation from the watershed occurs during the first year after the fire (Rice 1975).

6. Due to climatic conditions in many instances, seeding efforts achieve little soil stabilization during the first year except to establish a cover that may be effective in the following seasons (Rice 1975).

7. If there is a sufficient viable seed bank left in the soil, grass seed will not provide additional soil stabilization. If the seed bank is seriously depleted by intense fire, then seeding can add cover which may increase infiltration and reduce surface erosion, possibly providing benefits to downstream values (P. Wohlgemuth, PSW-Riverside, per. communication). Oak/grass woodlands will always have a sufficient seed source and will not require supplemental seeding.

8. Seeding success and effectiveness are closely associated with site productivity. Only better sites should be considered as a priority for seeding; poorer sites should not be considered. The best sites have fine-grained soils, dark color, and usually slopes less than 50%. Poorer sites have harsh exposure, slopes greater than 50% with mobile surfaces, no definite soil development, and high natural erosion rates (Ruby and Griffith, 1994).

9. A rapid, accurate method to assess the quantity of seed in the soil after the fire would assist in deciding whether severely burned areas should be seeded. Some considerations in developing such a technique are: 1) obtaining an adequate sample size, 2) determining the minimum number of seeds/unit volume to recommend seeding, 3) locating facilities for germinating the samples, and 4) determine germination procedures that reflect natural germination processes so as not to under or over estimate germination.

10. If native seed is prescribed, it should be collected locally.

PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERSHIP

NOTE: Emergency rehabilitation is work done promptly following a wildfire and is not t solve watershed problems that existed prior to the wildfire.

Line Items	Units	Unit Cost M$	NFS Lands Number of Units	NFS Lands EFFS-FW22 M$	NFS Lands Other $ ident.	Other Lands Number of Units	Other Lands Fed $ ident.	Other Lands Non-Fed $ ident.	Al Tot $
A. LAND TREATMENTS									
Temporary Fencing	miles	5000	0.5	2500					2500
B. CHANNEL TREATMENTS									
Clearing (Log Jam)		4000	1	4000					4000
Steam Survey		4600	1	4600					4600
C. ROADS AND TRAILS									
Trail Treatments	miles	13500	2.5	33750					3375
Signs		200	24	4800					4800
Patrol				22000					2200
Rock Scaling		4000	2	8000					8000
D. STRUCTURES-OTHER									
Arch. Site Protection	Site	7500	3	22500					2250
Def. Wall (Ponderosa CG)		1500	1	1500					1500
E. BAER EVALUATION/ ADMINISTRATIVE SUPPORT									
Salary, travel, admin.	Team	6050	14	84700					8470
Air Photos	acres		12390	10000					1000
TOTAL				198,350					1983

PART VII - APPROVALS

1. /s/ _____ _____
Forest Supervisor (Signature) Date

2. /s/ **Margaret Pasholk (for)** **10/24/96**
Regional Forester (Signature) Date

The burned area rehabilitation team members were from 4 National Forests. Many contac were made and meetings held with members from the Natural Resources Conservation Servi California Dept. of Fish and Game, Monterey County, Fort Hunter Liggett, California Department of Transportation, National Marine Fisheries Service and Fish and Wildlife Service.

BAER Team members included:

Lisa Byrant, Soil Scientist, Inyo NF
Christine Christensen, Hydrologist, El Dorado NF
Sara Chubb, Fisheries Biologist, Los Padres NF
Barry Cohn, Team Leader, Los Padres NF
Kevin Cooper, Wildlife Biologist, Los Padres NF (SLRD)
Karen Danielsen, Botanist, Los Padres NF
Allen King, Geologist, Los Padres NF
Andrea Maliarik, Archaeologist, Los Padres NF (MRD)
Cheryl Mulder, Hydrologist, El Dorado NF
Jim O'Hare, Soil Scientist, Angeles NF
Dirk Rodriguez, Botanist, Los Padres NF
Tom Ryan, Soil Scientist
Chuck Sheen, Engineer, Los Padres NF (SLRD)
Dick Zechentmayer, District Resource Officer, Los Padres NF (MRD)