USDA-FOREST SERVICE

FS-2500-8 (6/06)
Date of Report: 4-14-13

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 #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: **Panther**

B. Fire Number: **Cal Fire: CABTU5648**
FS: LNF1743

C. State: **California**

D. County: **Tahama**

E. Region: **05 – Pacific Southwest**

F. Forests: **Lassen**

G. Districts: **Almanor**

H. Fire Incident Job Code: **PNHE8J**

I. Date Fire Started: **April 30 2013**

J. Date Fire Contained: **May 9 2013**

K. Suppression Cost: **$ (est.)**

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): **33.3 miles** (includes 14.8 mi of hand line)
2. Fireline seeded (miles): **0 miles**
3. Other (identify): Lop and scatter dozer piles – where needed

M. Watershed Number(s): (6th level hydrologic units, percent of watershed acres within fire perimeter):

Middle Mill Creek – 180201560302 - 34,564.64 acres
1181.77 acres are in the Fire Perimeter (3.42% of whole watershed)
365.86 acres were unburned (1.06% of whole wtrshd, 30.96% of fire area in wtrshd)
545.29 acres low (1.58% of whole wtrshd, 46.14% of fire area in wtrshd)
187.39 acres moderate (0.54% of whole wtrshd, 15.86% of fire area in wtrshd)
83.23 acres high (0.24% of whole wtrshd, 7.04% of fire area in wtrshd)

Big Smoky Creek – Deer Creek – 180201570204 - 32,265.93 acres
5711.16 acres are in the Fire Perimeter (17.7% of whole watershed)
769.59 acres were unburned (2.39% of whole wtrshd, 13.48% of fire area in wtrshd)
2637.23 acres low (8.17% of whole wtrshd, 46.18% of fire area in wtrshd)
2076.48 acres moderate (6.44% of whole wtrshd, 36.36% of fire area in wtrshd)
227.87 acres high (0.71% of whole wtrshd, 3.99% of fire area in wtrshd)

N. Total Acres Burned: **6893 acres**

NFS Acres: 2886.29 acres (339.64 acres Ishi Wilderness) Other Federal (0) State (0)
Private: 4006.64 acres (1923.04 acres Collins Pine & 2083.61 acres Sierra Pacific Industries (SPI)

O. Vegetation Types:
Westside mixed conifer forest composed of Ponderosa, sugar and Jeffrey pine, Douglas fir, incense cedar, California black oak, dogwood, big-leaf maple, canyon live oak, and a minor component of white fir. Common shrubs are bush chinquapin, deerbrush, gooseberry, poison oak, snowberry, Mahala mat, redbud, and manzanita. Common herbaceous plants and grasses are lupines, bracken fern, pathfinder, starflower, Washington lily, yellow star-tulip, iris, bedstraw, bluegrass, stick sedge and rye grass.

Chaparral, more common on the western edge of the fire, was mainly composed of buckbrush, deerbrush, manzanita, redbud and poison oak.

The dominant Riparian vegetation consisted of alder, big-leaf maple, willow, twinberry, dogwood, lady fern, horsetails, sedges, rushes, columbines, bleeding hearts, and monkeyflowers.

Patches of Annual Grassland between shrubfields with oat grass, rye grass, brome, blue grass, silver hair grass, blue Dicks, bluehead gilia, bird's foot trefoil and soap plant.

Small California black oak stands were observed in some areas as a transition between chaparral and mixed conifer forest. Some stands that were untouched by the Panther Fire displayed evidence of being consumed by wildfire in the recent past. Stands were composed of large snags with vigorous regrowth of black oak beneath.

P. Dominant Soils: McCarthy sandy loam, Iron Mountain rocky sandy loam and Lyonsville and Jiggs gravely sandy loam.

Q. Geologic Types: Rocks formed as the result of volcanic activity, ranging from basalt to rhyolite in composition, although andesitic rock predominates. Hard volcanic breccia is also found.

R. Miles of Stream Channels by Order or Class: 34.68 miles of streams total
Perennial: 4.6 miles **Intermittent: 30.1miles**

S. Transportation System: **Trails: 1.5 miles Roads: 29.8 miles total w/in fire** (13.1 mi FS road (only 2.8 mi on forest 10.3 mi are on private lands) and 16.7 mi of private roads.)

PART III - WATERSHED CONDITION

A. Burn Severity on National Forest Lands (acres): **2880.3 acres**
(low) **1339.6** (moderate) **887.6** (high) **98.28**

B. Water-Repellent Soil (acres): **311 acres (98 FS lands)**

C. Soil Erosion Hazard Rating (acres):

Low	304 acres
Moderate	501 acres
High	6088 acres

D. Erosion Potential: 1st year average: 7.28 tons/acre
2nd year average: 3.07 tons/acre

Based on the ERMit erosion model with a 50% chance of exceedence.

E. Sediment Potential: 3,431 cubic yards/square mile for the next 24 months.
Based on 70% delivery of the erosion potential to a channel.

Note: There were some technical issues with the BARC map in that due to a problem with the satalite there were significant data gap that showed up as lines across the map. These were filled in by hand by the GIS specialist using the ratings adjacent to the data gap. This may produce some slight errors in calculating the overall fire severity.
Also, the BARC map ratings were slightly adjusted downward decreasing the high and increasing the low and moderate severity.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	**2-5**
B. Design Chance of Success, (percent):	**90**
C. Equivalent Design Recurrence Interval, (years):	**2**
D. Design Storm Duration, (hours):	**6**
E. Design Storm Magnitude, (inches):	**1.9**
F. Design Flow, (cubic feet):	**37.7**
G. Estimated Reduction in Infiltration, (percent):	**NA**
H. Adjusted Design Flow, (cfs):	**58.2**

Note: The above numbers relate to the drainage area above the culvert on FS road 27N83, which is proposed for treatment.

PART V - SUMMARY OF ANALYSIS

Background:

A. Describe Critical Values/Resources and Threats: The Panther Fire burned approximately 6893 acres of moderately steep to very steep slopes with Deer Creek running through the burned area for 2.1 miles. The burn area runoff flows to mostly to Deer Creek with a small portion draining to Mill Creek. A portion of the Ishi Wilderness area was burned. The burn area within the wilderness is mostly light with a small area of high and moderate burn severity. There is no urban interface affected or threatened by the runoff from the burned area. The fire burn severity is mostly moderate and light with a few hot spots of high in a mosaic across the burn. The main channel and valley bottom of Deer Creek and the lower portions of most of the tributary drainages burned with low severity or unburned. Even the high severity areas appear to have low heat impacts to the soils. Deer Creek is an anadromous fishery and is the highest valued resource affected by the Panther fire. There is expected to have some increased sediment input to Deer Creek but the team determined that it would not be a significant negative effect to the fishery. The spread of noxious weeds from known sources within and adjacent to the burn is a threat to the native ecosystem. There are some road related safety and erosion problems. There is the possibility of small debris flows originating on some of the steeper headwater areas but would not likely make it to Deer Creek.

Summary of Issues:

Human Life and Safety

Post-fire watershed conditions do not pose a significant threat to the human life and safety.

A few roads on private land were identified as a potential safety issue from hill slope sloughing and small rock fall.

Structurally compromised burned hazardous trees exist throughout the burned area, with higher concentrations in areas that are mapped as high and moderate soil burn severity. Hazardous tree removal has already been implemented by fire suppression crews on the main access routes but hazard trees on many of the spur road in the fire interior have not been treated. The threat to life and safety of forest users and workers remains high and will persist for several years following the fire in untreated area. The Deer Creek Trail was identified as safety hazard due to hazard snags from the burn.
Small debris flow would be a threat to human safety if someone was in the wrong place at the time of initiation.

Possible Probability of Damage or Loss/Major Consequences – High

Property (Forest Service Roads)

Post-fire watershed conditions threaten a small amount of Forest Service Roads within the fire perimeter. Two locations were identified for road/stream crossing improvements to protect the road and reduce potential for having the crossings from washing out and adding material to the bed load in the anadromous streams associated with the burn area.

Likely Probability of Damage or Loss/Moderate Consequences – High

Critical Natural Resources

Native or Naturalized Plant Communities - Field reviews indicate that there is a substantial risk of noxious weed invasion along roads, trails, trailheads, campgrounds and dozer and hand lines, and other areas used during fire suppression activities, and high intensity burn areas. This threat is due to the existence of noxious weed in and adjacent to the burn area, and a potential that noxious weed seeds were brought into the area by fire equipment that has been used on other wildfires and suppression activity within known noxious weed locations within the burn.

There is a high likelihood of the spread and introduction of noxious weeds into areas disturbed by the Panther Fire. Noxious weed occurrences present outside the fire area could establish within habitat rendered vulnerable by the fire. Although many native plants respond favorably to fire, noxious weeds threaten plant diversity by reducing the abundance of other native species and forming monocultures. The inadvertent introduction of noxious weeds into areas dirsturbed by fire suppression and repair activities has the potential to establish persistent weed populations. These persistent populations could affect the structure and habitat function of plant communities within the burned area. Forest Service direction is to minimize the establishment of non-native invasive species to prevent unacceptable degradation of the burned area. Consequently, delayed assessment of roads, dozer lines, and drop points is necessary to detect the spread and introduction of weeds in the first year after fire. Assessing the establishment of weeds and treating small outlying populations before they expand will prevent the weeds from becoming serious threats to the recovery of the native plant community.

Noxious weed populations established in the fire area also threaten all nearby public and private lands. Agricultural lands around the fire area may be degraded due to noxious weed spread. Water quality may also be threatened when noxious weeds displace native riparian and wetland plant species. Many native wetland plants prevent riparian soil erosion while some noxious weeds do not.

Likely Probability of Damage or Loss/Major Consequences – Risk Very High

B. Emergency Treatment Objectives:

The goal of the burned area emergency rehabilitation is to:

- Reduce threats to personal injury and/or human life of visitors and workers using system roads and trails within the burned area.
- Reduce threats of erosion on system roads and trails routed through severely burned areas. Reduce impacts on water quality and fisheries habitat associated with increased erosion from roads and trails.
- Control expected invasion of noxious weeds within the area, especially along and adjacent to Forest roads and dozer lines used by fire equipment and in existing populations within the fire boundary.

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

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

D. Probability of Treatment Success – Probability of success with the road treatments is 90-100% the treatments will accomplish objectives of stabilizing the road crossings from washing out. Probability of success for the noxious weed treatment is 60-80% the treatment will identify new weed occurences and control the spread. Weed treatment will likely need to followed up after the first year to maintain success.

E. Cost of No-Action (Including Loss): – Cost of no action for the road treatments would be potential loss of the road segments and the need to rebuild the road and harden the crossing and upsize culverts anyway. If the road crossings fail there is another cost of large pulse of sediment into the anadromous fisheries.
Cost of no action on the weeds would be almost certain spread of noxous weed and impacts to the local native ecosystem. Long term expansion of noxious weeds could leed to increased soil erosion due to type and amount of ground cover and root stability differences.

F. Cost of Selected Alternative (Including Loss): – The cost of the selected alternative to improve two stream crossings and survey for weeds is $40,075.00.

G. Skills Represented on Burned-Area Survey Team:

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

Team Leaders:
Randy Westmoreland
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Team Members:
Randy Westmoreland, Team Leader
Emily Fudge, Hydrologist
Dave McComb, Soil Scientist
Tim Kellison, Botanist
George Buttler, Road Engineer
Elaine Elliott, GIS
Adam Gutierrez, Archeology
Cris Mayes, Fisheries/Aquatics

H. **Treatment Narrative:**

Protection/Safety Treatments:

None Identified

Land Treatments:

Noxious Weeds Treatment
Purpose of Treatment: To perform Early Detection Rapid Response (EDRR) management activities on noxious weeds species within and adjacent to the Panther fire perimeter. To prevent known infestations from spreading and/or increasing in density from fire suppression/fire effects of the Panther Fire. If detection and treatment was not implemented the probability of irretrievable loss of the native plant community due to the invasion of noxious and non-native invasive species is nearly certain that noxious and non-native species would out-compete native plant species.

Treatment Description:
Surveys will begin in 2013 within the Panther Fire perimeter primarily during the flowering periods of weed species, once in early June to detect Italian thistle, Himalayan blackberry and Medusahead, and again in early July to detect Klamathweed, Medusahead, tocalote and yellow starthistle. Follow up surveys will be conducted in early May, 2014 for all species listed above. Completion of surveys along dozer lines, drop point 3, and known invasive plant populations will be the first priority. The second priority will be surveys along roads, handlines, and the remaining drop points. Surveys of general habitats in the burned area will be the lowest priority. All locations of weed species will be documented and mapped using GPS equipment, and hand pulling of small, new weed occurrences would be implemented at the time of inspection. New weed occurrences will be

pulled to root depth, placed in sealed plastics bags, and properly disposed. Results will be entered into the NRIS database.

Channel Treatments: None

Roads and Trail Treatments:

General Description: Road treatments include hardening a stream crossing and upsizing a set of culverts to prevent the crossing from washing out and adding sediment to the anadromous fishery.

Location(s): Treatments are recommended for specific sections of the following roads that are likely to be impacted by post wildfire run-off and erosion:

- Harden stream crossing on Road 27N23 at the Dead Horse Creek Crossing.
- Upsize culverts on Road 27N29.

Design/Construction Specifications: See Engineer Report

Trail Treatment Recommendations – Warning signs at trailheads to warn trail users of the resent burn and associated hazard tree danger.

I. **Monitoring Narrative:** No Monitoring proposed.

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										
Nox. Weed	each	5,175	1	$5,175	$0		$0		$0	$5,175
		0	0	$0	$0		$0		$0	$0
Subtotal Land Treatments				$5,175	$0		$0		$0	$5,175
B. Channel Treatments										
none										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Armor Rd. 27N83	contract	17,600	1	$17,600	$0		$0		$0	$17,600
Upsize Pipe Rd. 28N29	cantract	16,800	1	$16,800	$0		$0		$0	$16,800
Warning signs for trailheads	Each	250	2	$500	$0		$0		$0	$500
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$34,900	$0		$0		$0	$34,900
D. Protection/Safety										
none	Each	0	0	$0	$0		$0		$0	$0
		0	0	$0	$0		$0		$0	$0
		0	0	$0	$0		$0		$0	$0
		0	0	$0	$0					
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
Panther Assessment Team	Report	15,500	1	---	$15,500		$0		$0	$15,500
		0	0	---	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$15,500		$0		$0	$15,500
F. Monitoring										
none		0	0	$0	$0					
					$0					
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$40,075	$15,500		$0		$0	$55,575
Previously approved				$0						
Total for this request				**$40,075**						

PART VII - APPROVALS

1. Forest Supervisor Signature: Date

Jeanny Bird (Lassen National Forest) 05/20/13

2. Regional Forester Signature

6.4.13

FOR RANDY MOORE