

Date of Report: 10/17/2005

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- ☐ 1. Funding request for estimated WFSU-SULT funds
☒ 2. Accomplishment Report
☐ 3. No Treatment Recommendation

B. Type of Action

- ☐ 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 or design analysis
- ☐ Status of accomplishments to date
- ☒ 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

- A. Fire Name: Shelly Creek
- B. Fire Number: CA-SRF-3522
- C. State: California
- D. County: Del Norte
- E. Region: Pacific Southwest (R5)
- F. Forest: Six Rivers
- G. District: Gasquet Ranger District
- H. Date Fire Started: July 28, 2002
- I. Date Fire Contained: August 4, 2002
- J. Suppression Cost: \$ 2.8 million (estimate)
- K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 3
 2. Fireline seeded (miles): 0
 3. Other (identify):
- L. Watershed Number: 1801010102 Middle Fork Smith River
- M. Total Acres Burned:
- NFS Acres(843) Other Federal () State () Private ()

N. Vegetation Types: tan oak/canyon live oak/rock pile; tan oak/canyon live oak/evergreen huckleberry; tanoak/evergreen huckleberry; tanoak/Port Orford cedar-bay laurel/evergreen huckleberry; doug-fir/canyon live oak/rockpile.

O. Dominant Soils: Gasquet, Walnett, Jayel, Horseshoe, Clallam, Skalan, Goldridge, Harleton, Elioak, Chenango, Hugo, Maymen, Rock outcrop metaigneous, Aiken, Lithic Xerorthents.

P. Geologic Types: Jurassic age Josepine ophiolite complex composed of the following types: peridotite, gabbro, metavolcanics, pillow basalt, diabase dike complex.

Q. Miles of Stream Channels by Order or Class: 0.7 miles perennial, 16 miles intermittent

R. Transportation System

Trails: 0 miles Roads: 2.5 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 316 (low) 275 (moderate) 85 (high)

B. Water-Repellent Soil (acres): 2 acres

C. Soil Erosion Hazard Rating (acres):
85 (low) 675 (moderate) 83 (high)

D. Erosion Potential: 3.97 tons/acre

E. Sediment Potential: 1694 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 6

B. Design Chance of Success, (percent): n/a

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 8.3

F. Design Flow, (cubic feet / second/ square mile): 219

G. Estimated Reduction in Infiltration, (percent): 2

H. Adjusted Design Flow, (cfs per square mile): 223

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The Shelly Creek Fire burned approximately 843 acres in the Middle Fork of the Smith River watershed on the Smith River National Recreation Area, Six Rivers National Forest. All of the fire occurred on Forest Service lands, none on private. The dominate vegetation burned was primarily hardwoods and shrubs, with patches of doug-fir and pine. The dominance of hardwoods and shrubs results from a shallow rocky substrate characteristic of the Josephine Ophiolite, an exposed oceanic crust occurring in Northwestern California and Southwestern Oregon. Soils that have developed on this crust are characterized as shallow, very gravelly, coarse sandy loams that are nutrient poor as a result of their derivation from the ultramafic substrate which is high in iron and magnesium. No evidence of mass movement was noted in field visits. No live water was noted within the burn.

Fire Intensity

Fire intensity was developed from satellite imagery taken on July 29, 2002 and analyzed by the Forest Service Remote Sensing Applications Center (RSAC). Field verification of the RSAC analysis resulted in the following determination:

Unburned or low burn intensity	57%	483 acres
Moderate burn intensity	33%	275 acres
High burn intensity	10%	85 acres

The Shelley Creek Fire is a mosaic of burn intensities within its perimeter. Approximately 2% of the area that exhibited high burn intensity, or 1.7 acres, showed moderate to strong water repellency. No soil crusting was seen.

Threats to Life and Property, Water Quality and Long-term Soil Productivity

There were no structures or homes within the Shelly Creek Fire. Some rock fall onto Highway 299, a major east/west arterial travel route, did occur and was managed by the California Department of Transportation. A major power line corridor exists within the burned area and damaged poles and down lines have been replaced. The Middle Fork of the Smith River serves as a domestic and municle (for the town of Gasquet) water source but it is unlikely the fire will effect water quality as little ash or sediment movement is expected beyond the limits of the fire due to the low erosion potential of the gravelly soils and the low percentage of high burn intensity areas. The amount of wind and water erosion is not expected to be enough to impact long-term soil productivity for reasons noted above. The abundance of stump sprouting hardwood and shrub species support expectations of rapid revegetation. Considerable amounts of charred down woody materials remain to slow ersion and provide long term nutrient release. Noxious weeds have been observed and mapped along access routes from the fire camp in Crescent City to the fire and along the west flank of the fire. A noxious weed monitoring plan to stop the introduction and spread of weeds within the fire was provided with the initial request for WFSU-SULT funds. This monitoring plan included 2nd and 3rd year post fire monitoring. Initial weed monitoring and treatment accomplishments performed first year post fire and second year post fire, and requests for additional funds to monitor and treat fire related weed infestations third year post fire are included in the narrative section at the end of this report.

Summary

There are no major threats to life, water quality or long term soil productivity resulting from the Shelly Creek Fire. However, infestations of noxious weeds were found within and along the flanks of the fire. A summary of these findings can be found in the treatment narrative section at the end of this report.

B. Emergency Treatment Objectives:

To detect whether there is an increase in the invasive species; meadow knapweed, yellow star thistle, scotch broom and French broom in the Shelly Creek Fire and to determine the success of hand pulling at infested areas.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land NA % Channel NA % Roads NA % Other NA %

D. Probability of Treatment Success

Years after Treatment			
	1	3	5
Land	NA	NA	NA
Channel	NA	NA	NA
Roads	NA	NA	NA
Other	NA	NA	NA

E. Cost of No-Action (Including Loss):

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/>
<input checked="" type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input type="checkbox"/> Archaeology	<input type="checkbox"/>
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: John McRae

Email: jmcr@fs.fed.us

Phone: 707-441-3513

FAX: 707-442-9242

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: None

Channel Treatments: None

Roads and Trail Treatments: None

Structures: None

I. Monitoring Narrative:

Monitoring Results First Year Post Fire (2003) and Monitoring Needs Second Year Post Fire (2004)

Access routes, dozer lines, hand lines and areas adjacent to and surrounding weed infestations within the Shelly Creek Fire on the Smith River National Recreation Area on Six Rivers N.F. were inventoried during the summer of 2003 (one year post fire) for invasive weeds. Surveys and treatments were performed early in the year, during the last week in May and the first week in June, to avoid spreading weed propagules. Two biological technicians, Caroline Stimson and Carrie Schreiber, performed the surveys and treatments. Road surveys were conducted by vehicle. Tractor lines and hand lines were walked. Approximately 5.5 miles of road and 125 acres of ground within the fire were surveyed for weeds. Approximately 1.5 infested acres were treated by hand pulling using weed wrenches and pulaskis. Pulled plants were left on site. All weed sites located were mapped and GPSed. Data collected was entered into the NRIS/Terra database. John McRae, Assistant Forest Botanist on Six Rivers N.F, prepared this monitoring report. The following four sites containing either scotch broom (*Cytisus scoparius*) or meadow knapweed (*Centaurea debeauxii*) were located within the Shelly Creek Fire.

1) A one half acre site of scotch broom on Forest Service road 18N06F in the southwestern side of the fire was 99% treated by hand pulling with weed wrenches on 6/3/03. This site will require retreatment in 2004.

2) Another scotch broom site was located on the southwestern edge of the fire on Forest Service road 18N06E. This road is not drivable requiring weed wrenches and pulaskis to be hand carried 2000 feet to treat the site. This site was partially treated in 2003 and will require retreatment in 2004.

3) A 3-acre meadow knapweed site was located in the eastern side of the fire west of the road that parallels Monkey Creek. Scotch broom is also present on this site. This site was partially treated in 2003 and will require retreatment in 2004.

4) A second meadow knapweed site exists at the end of the road that parallels Monkey Creek where a hand line extends from Forest Service road 18N06 to Monkey Creek. The disturbance associated with the hand line has likely created more favorable conditions for noxious and invasive weeds to colonize/invade this area. This site was partially treated in 2003 and will require retreatment in 2004.

Monitoring Results Second Year Post Fire (2004) and Monitoring Needs Third Year Post Fire (2005)

Access routes, dozer lines, hand lines and areas adjacent to and surrounding weed infestations associated with the Shelly Creek Fire on the Smith River National Recreation Area were re-inventoried during the summer of 2004 (two year post fire) for invasive weeds. The following sites will need to be re-inventoried in 2005 (three years post fire) for follow up treatment.

1) A half-acre site of Scotch broom (*Cytisus scoparius*) on road 18N06F in the southwestern side of the fire was 99% treated in 2003 and 2004. The mature flowering plants have been removed. There were over 300 seedlings pulled in 2004. Two new Scotch broom sites on 18N06F were identified and treated in 2004. These sites will require further treatment in 2005.

2) A Scotch broom (*Cytisus scoparius*) site was located on the southwestern edge of the fire on road 18N06E and was treated in 2003 and 2004. The mature flowering plants have been removed. Thirty-five seedlings were removed in 2004. This site will require follow up monitoring and treatment in 2005.

3) A new Scotch broom (*Cytisus scoparius*) site (2004) was located within the fire area next to a powerline access road just west of Monkey Creek. This site was 99% treated and will require follow up treatment and monitoring in 2005.

4) A 3-acre meadow knapweed (*Centaurea debeauxii*) site was located in the eastern side of the fire west of the road that parallels Monkey Creek in 2003. Scotch broom is also present on this site. This site was partially treated in 2003 and 2004 and will require re-treatment and monitoring in 2005.

5) A second meadow knapweed (*Centaurea debeauxii*) site exists at the end of the road that parallels Monkey Creek where a hand line extends from road 18N06 to Monkey Creek. The disturbance associated with the hand line has likely created more favorable conditions for noxious and invasive weeds to colonize/invade this area. This site was partially treated in 2003 and 2004 and will require treatment and monitoring in 2005.

Weed Monitoring and Treatment Cost Estimate 3 Years Post Shelly Creek Fire (2005)

	<u>field crew</u>	<u>days</u>	<u>\$/day</u>	<u>total \$</u>
Field work	2 GS-9s	6	\$518	\$3108
Oversight, data input, report	GS-11	2	\$300	\$600
Travel, PD Vehicle				\$300

Amount Requested For 2004 = \$4000

Shelly Fire Monitoring Results Third Year Post Fire (2005)

Access routes, dozer lines, hand lines and areas adjacent to and surrounding weed infested areas associated with the Shelly Creek Fire on the Smith River National Recreation Area were re-inventoried during the summer of 2005 (third year post fire) for invasive weeds by Biological Technician, Caroline Stimson. Five known noxious sites were re-treated. They are as follows:

- 1) A half-acre site of Scotch broom (*Cytisus scoparius*) on road 18N06F in the southwestern side of the fire was 99% treated in 2003 and 2004. The mature flowering plants have been removed. There were over 300 seedlings pulled in 2004. 186 seedlings were pulled from this site in 2005.
- 2) A Scotch broom (*Cytisus scoparius*) site was located on the southwestern edge of the fire on road 18N06E and was treated in 2003 and 2004. The mature flowering plants have been removed. Thirty-five seedlings were pulled in 2004. 100 seedlings were pulled in 2005.
- 3) A 3-acre meadow knapweed (*Centaurea debeauxii*) site was located in the eastern side of the fire west of the road that parallels Monkey Creek in 2003. Scotch broom is also present on this site. This site was treated in, 2004 (80%) and 2005(50%).
- 4) A second meadow knapweed (*Centaurea debeauxii*) site exists at the end of the road that parallels Monkey Creek where a hand line extends from road 18N06 to Monkey Creek. This site was treated in 2004 (99%) and 2005 (99%).
- 5) A Scotch broom (*Cytisus scoparius*) site next to a powerline access road just west of Monkey Creek was 99% treated in 2004 and 2004. 329 seedlings were pulled from this site in 2005.

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

Part VI - Emergency Rehabilitation Treatments and Source of Funds by Land Ownership											
			NFS Lands				Other Lands			All	
		Unit	# of	WFSU	Other		# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT \$	\$		units	\$	Units	\$	\$
A. Land Treatments											
				\$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 Land Treatments				\$0	\$0			\$0		\$0	\$0
B. Channel Treatments											
				\$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 Channel Treat.				\$0	\$0			\$0		\$0	\$0
C. Road and Trails											
				\$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 Road & Trails				\$0	\$0			\$0		\$0	\$0
D. Structures											
				\$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											
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Evaluation				\$0	\$0			\$0		\$0	\$0
F. Monitoring											
2003 accomplished	acres	25	160	\$4,000	\$0			\$0		\$0	\$4,000
2004 accomplished	acres	25	160	\$4,000	\$0			\$0		\$0	\$4,000
2005 accomplished	acres	25	160	\$4,000	\$0			\$0		\$0	\$8,000
Subtotal Monitoring				\$12,000							
G. Totals				\$12,000	\$0			\$0		\$0	\$8,000

PART VII - APPROVALS

- /s/ Jeff Walter

10/17/05

JEFF WALTER
Forest Supervisor

Date
- _____
BERNARD WEINGARDT
Regional Forester

Date