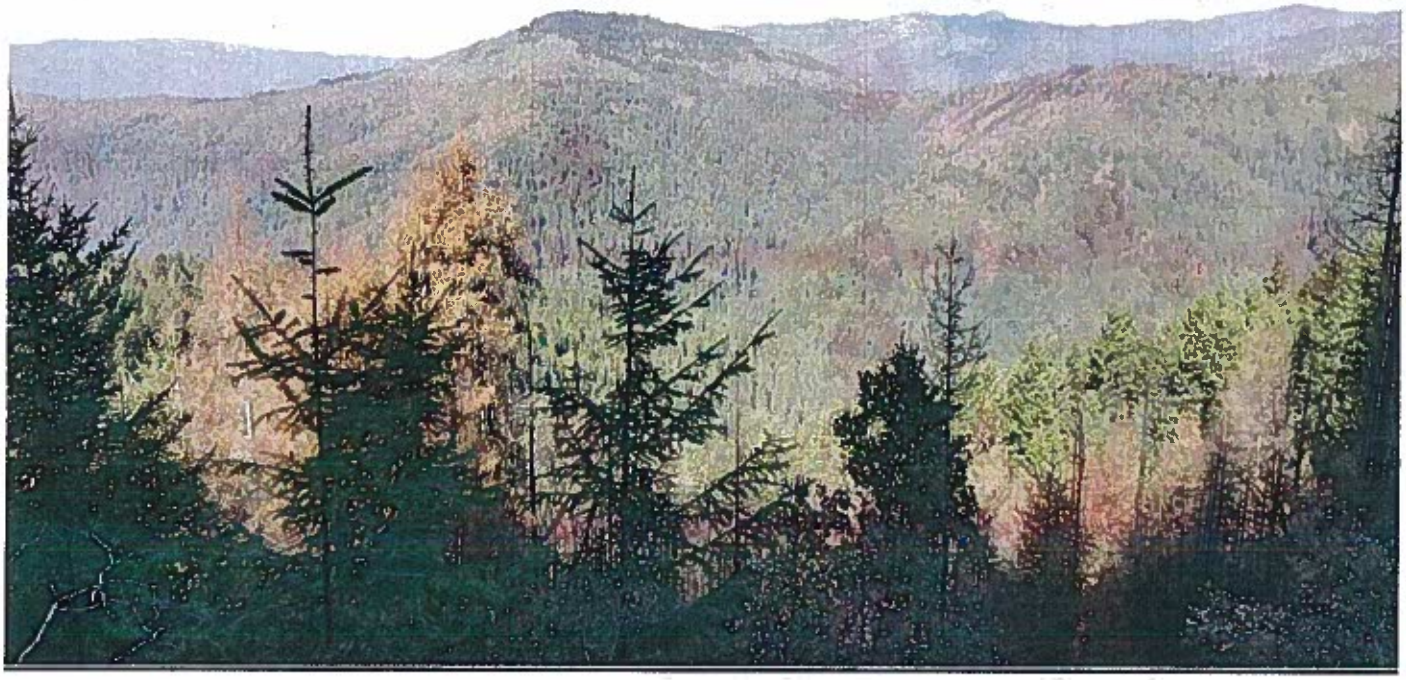
USDA-FOREST SERVICE FS-2500-8 (07/08)

Date of Report: 10/27/2015

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: Nickowitz

B. Fire Number: CA-SRF-001470

C. State: CA

D. County: Humboldt and Del Norte

E. Region: 5 – Pacific Southwest

F. Forest: 10- Six Rivers

G. District: Orleans

H. Fire Incident Job Code: P5J0S5/0510

I. Date Fire Started: July 31, 2015

J. Date Fire Contained: October 27, 2015

K. Suppression Cost: $13.5 million to date

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): ongoing
2. Fireline seeded (miles): 0
3. Other (identify): Hand line repaired:

M. Watershed Name and Number: Bluff Creek (180102090804), East Fork Blue Creek (180102090901), Lower Blue Creek (180102090905), and Middle Blue Creek (180102090904)

N. Total Acres Burned: 7,750 ac
NFS Acres(X) Other Federal ( ) State ( ) Private ( )

O. Vegetation Types: Predominantly enriched mixed conifer forest of the Klamath Siskiyous. Mixed evergreen species include California Red fir (*Abies magnifica*), Coastal Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*), Port Orford cedar (*Chamaecyparis lawsoniana*), white fir (*Abies concolor*), incense cedar (*Calocedrus decurrens*), Jeffrey pine (*Pinus jeffreyi*), canyon live oak (*Quercus chrysolepis*), golden chinquapin (*Chryosolepis chrysophylla*), tanoak (*Notholithocarpus densiflorus*). The shrub and grass component consists of Evergreen huckleberry (*Vaccinium ovatum*), alder (*Alnus spp.*), Oregon Grape (*Berberus nervosa*), salal (*Gautheria shallen*), Idaho fescue (*Festuca idahoensis*), and bear grass (*Xerophyllum tenax*).

P. Dominant Soils: Clallam, Kirstirn, Goldridge, and Skalan

Q. Geologic Types: Lithologies consists entirely of rocks of the Western Klamath accreted terrane, divided among Galice Formation metasediments (metashale, slate and phyllite) in the eastern and central portions of the burned area, Rogue Formation metavolcanics (meta-andesites, metabasalts, volcaniclastics, tuffs and interbedded metasediments) in the western portion, and a small area of mafic and ultramafic intrusive rocks of the Josephine Ophiolite (peridotite, serpentinite, amphibolite, gabbro, and diabase) in the southwesternmost portion.

Deeply dissected landscape dominated by colluvial hillslope processes, with convex ridgetops giving way downslope to active colluvial hillslopes on ridge spurs and upper convex hillslopes, headwall basins in concave upper hillslope positions, deeply incised inner gorges with active debris sliding in inner canyons, and widely distributed but mostly dormant areas of deep-seated landsliding across the landscape.

R. Miles of Stream Channels by Order or Class:

Intermittent (11 miles)	Perennial (10.7 miles)	Ephemeral (33 miles)

S. Transportation System

Trails: 0 miles Roads: 20.6 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 4,464 (58% very low and unburned); 2,845 (37% low) 384 (4% moderate) 55 (1% high)

B. Water-Repellent Soil (acres): 30 ac (mostly weak and medium)
Water repellency is present – though not typically continuous across higher soil burn severity patches, and varies in degree based on soil texture and, to a lesser extent, aspect. Water repellency is not expected to exacerbate runoff production due to the minimal acres and juxtaposition. Little to no hydrophobicity was observed in unburned and very low areas within the fire perimeter, that comprises over 50 percent of the fire.

C. Soil Erosion Hazard Rating (acres):
775 (low) 1,162 (moderate) 5,811 (high)

D. Erosion Potential: N/A tons/acre *(Erosion and sediment models were not run due to overall low burn severity - no measurable effects are anticipated.)*

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

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): ____ *(Peak flow models were not run due to overall low burn severity - no measurable effects are anticipated.)*

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

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

D. Design Storm Duration, (hours): ____

E. Design Storm Magnitude, (inches):

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

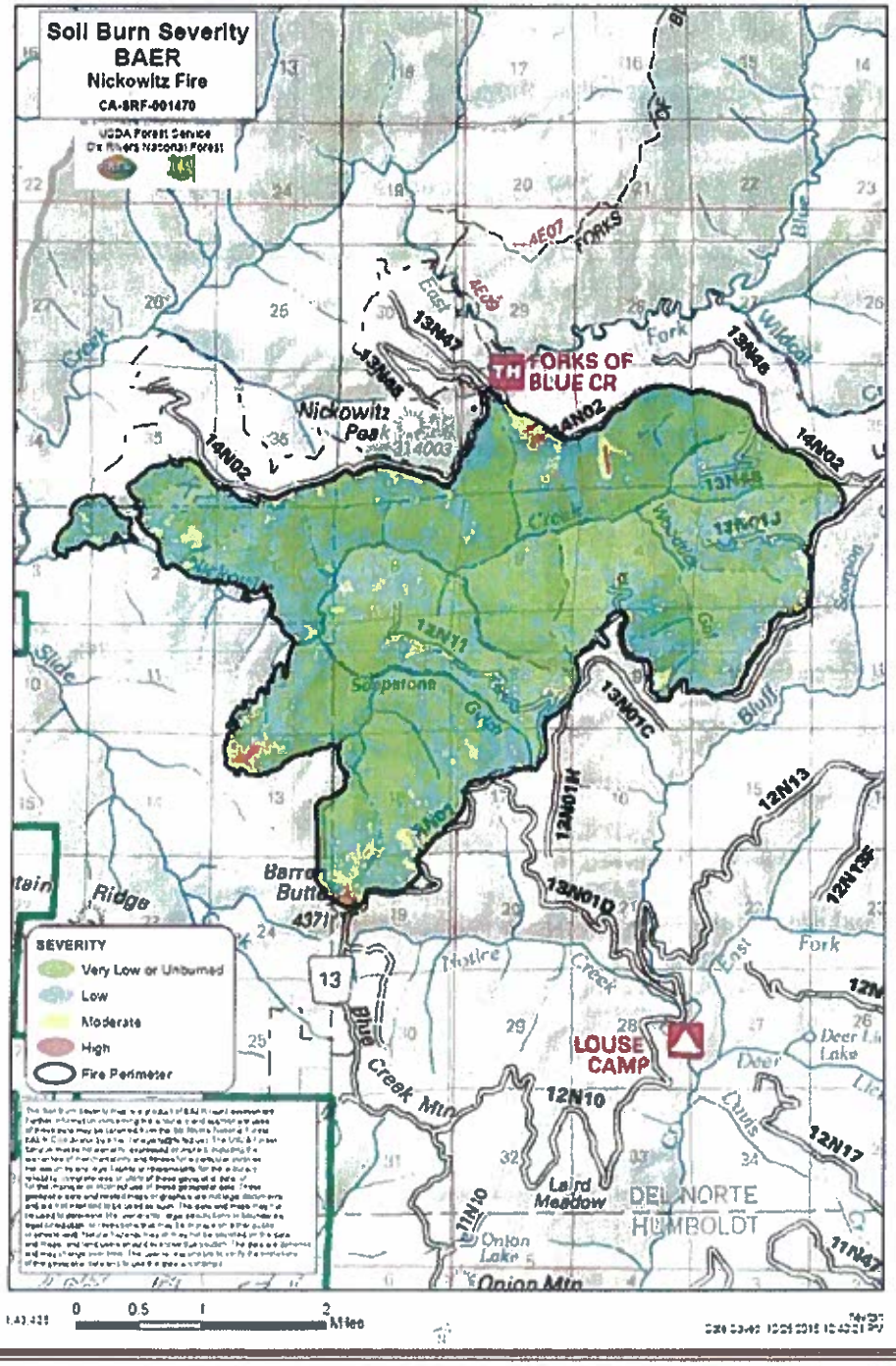
G. Estimated Reduction in Infiltration, (percent): ____

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

PART V - SUMMARY OF ANALYSIS

Background: The Nickowitz Fire was ignited by lightning on July 31, 2015, has burned roughly 7,750 acres within the Blue and Bluff Creek watersheds on the Six Rivers National Forest. The observed fire intensity and soil burn severity (SBS) is consistent with fire behavior documented in the Incident Management Team (IMT) close-out narratives. Predominantly low SBS exists across the areas where fires burned with a steady downhill backing spread, with limited spotting and occasional single tree torching. In these areas fuel consumption was limited to surface litter and smaller diameter vegetation (1 and 10 hour fuels).

Figure 1 – Soil Burn Severity Map for the Nickowitz Fire



A. Describe Critical Values/Resources and Threats:

1. Human Life and Safety:

Intermediate Risk (possible, moderate) to human life and safety of recreating public and agency personnel from hazard trees when traveling on forest roads affected by burned areas. Fire-damaged road segments and post-fire impacts increase the risk for loss of ingress/egress. Specific routes of concern include: 12N11(gated road from ridgetop to lower midslope position that has moderate and low vegetation burn severity adjacent on both sides); 14N02 ridgetop road that accesses Forks of the Blue Trailhead; 13N01 (ridgetop loop road that connects G-O road to Highway 96.

2. Property

High Risk (likely, moderate) to 13N01 road at milepost 28.9 due to ditch relief culvert down drain structure in moderate burn severity where, due to heat culvert, separated. Consequences of not replacing would be an increase in gully erosion and potential sedimentation into Nickowitz Creek.

3. Natural Resources:

High Risk (likely, moderate) to native plant diversity, native plant communities or naturalized communities due to the threat of introduction and spread of noxious and non-native invasive plants from known populations (Canada thistle, foxglove, spotted knapweed, scotch broom) that exist within and adjacent to areas of high and moderate burn severity. Areas of moderate to high intensity fire have lost the competitive barrier (i.e. existing vegetation) which serves to reduce if not prevent the spread of non-native invasive plants into new areas and have altered habitat conditions (e.g. soils) that favor invasive plant seed establishment. Displacement of native species by non-native invasive plant species can result in a loss of viability for Region 5 Sensitive plant species that occur within the fires. These species include the Kohler's rockcress, opposite-leaved lewisia, the Siskiyou bells and the Siskiyou ragwort. Encroachment by non-native invasive plants can also result in the degradation of range and recreational values, reduction of water availability to native plants, and can negatively impact community ecology. (LS-01)

High Risk (likely, moderate) to native plant diversity due to the threat from the spread of non-native invasive plant species from known noxious weed populations (Canada thistle, diffuse knapweed, yellow star-thistle, scotch broom) as a result of fire suppression (e.g. seed imported on bulldozers).

B. Emergency Treatment Objectives:

- Mitigate and protect, to the extent possible, threats of personal injury or to human life of forest visitors and Forest Service employees by raising awareness through posting hazard warning signs on roads to communicate hazards of burned trees. Communicate risks to cooperating agencies and community groups.
- Repair road drainage structures damaged by fire and protect soil productivity and minimize sedimentation within the burned area.
- Treat invasive plants, which are a threat to native or naturalized ecosystems, by minimizing the expansion of existing weed populations in the burned area where soil and/or vegetation was disturbed as a result of fire suppression activities.

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

Land 50 % Channel NA % Roads/Trails 80 % Protection/Safety 90 %

Note: The only Land Treatment is Early Detection Rapid Response (EDRR) of noxious weeds and non-native invasive plant species. The implementation of this response action will occur two times in 2016 when plant emergence and flowering allow accurate identification of target species.

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	80	80
Channel	NA	NA	NA
Roads/Trails	75	80	80
Protection/Safety	80	70	60
Initially, visitors will heed the warning signs. Complacency is expected after the initial year unless there is a damaging event			

E. Cost of No-Action (Including Loss): **$86,700**

F. Cost of Selected Alternative (Including Loss): **$29,297**

Implementation of recommended response actions is based on market resources only and is economically justified with a 1.6:1 benefit-to-cost ratio. The likely probability of loss if treatments were not applied is based on field observations and expert opinion for potential damage or loss from activities likely to be implemented on adjacent private lands. For the recommended treatments there is a reduced probability of damage or loss with implementation. The expected loss would not be as costly when implementing the recommended treatments. The VAR analysis focused primarily on market values so potential benefits such as lowering level of risk to human life and safety, natural resources, and cultural resources were recognized in this BAER assessment, but not included in the cost basis for Values at Risk analysis.

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Fred Levitan and Scott Hagerty (Co-leads)

Email: flevitan@fs.fed.us; shagerty@fs.fed.us Phone: 707-441-3636 FAX:

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:

L-01 EDRR (Early Detection Rapid Response):
Reduce the potential for establishment of non-native invasive plant infestations in native or naturalized communities, particularly establishment of infestations in highly susceptible burned areas or dozer lines, prevent spread of existing infestations, and decrease rate of spread of non-native invasive plant density from existing infestations.

Treatment includes an initial detection survey combined with treatment at time of discovery, if possible. Surveys will begin in 2016 at times when the target species are the most visible. Treatments are associated with known sites within the fire noted in the following table. Inventory and treatment will also occur at 16 intersections (totally approximately 1 acre) of newly constructed dozer line with existing National Forest transportation system roads. Additional treatment sites are likely to be identified following a more comprehensive survey of the burned areas in 2016.

Table 2 - High Priority Non-Native Invasive Plant Locations

UTM E	UTM N	species	Acreage	Resource	Treatment
440734	4588126	Scotch broom	0.1	Weed	Inventory/Treat
440171	4588290	Scotch broom	0.1	Weed	Inventory/Treat
436747	4585963	French broom	0.1	Weed	Inventory/Treat
436700	4587053	Scotch broom	0.1	Weed	Inventory/Treat
439681	4588597	Scotch broom	0.1	Weed	Inventory/Treat
438926	4588475	Scotch broom	0.1	Weed	Inventory/Treat
438529	4587122	Scotch broom	0.1	Weed	Inventory/Treat
437842	4588069	Scotch broom	0.1	Weed	Inventory/Treat

Table 3 – EDRR Cost

L-01 EDRR Treatment Cost Estimate	Detection Survey Area (acres)	Labor	Mileage	Total
Nickowitz Fire	1.8	$10,088	$560.00	$10,648.00

Channel Treatments:

None recommended.

Roads and Trail Treatments:

- Road 13N01 at Mile Post 28.9 (near 13N01E) there is a down drain in what appears to be in a moderate burn severity area that caused the down drain on a culvert to unravel (spiral culvert that came apart). Recommend repair with new down drain and energy dissipater at end. Consequences of not doing the repair are increased sedimentation, and erosion of the fill slope that would jeopardize the road structure.

RT-01 Road Drainage Structure Replacement	Cost Estimate

Remove and replace ditch relief culvert down drain	$3,000

Protection/Safety Treatments:

PS-01 Hazard Warning Signs - Roads: Purchase and install 'Entering Burned Area" hazard warning signs at 4 locations, primarily at roads or road intersections that access the burned area. Signs are to be installed in visible locations on uphill side of roads. Signs will be installed consistent with FHWA Standard Specifications for Roads and Bridges on Federal Highway Projects (FP-03) with Forest Service supplemental specifications and follow sign and poster guidelines for the Forest Service EM7100-15. Refer to BAER Treatment map for specific locations.

Public Safety Treatments				
PS-01 Hazard Warning Signs – Roads	**Labor**	**Materials**	**QTY**	**Cost**
Nickowitz Fire	$1,500	$1,200	4	$2,700
Total PS-01: Hazard Warning Signs - Roads				**$2,700**

Other Treatments and Response Actions

Coordination, Communication, and Consultation

Over the next year it is critical that appropriate agencies maintain due diligence and continue to inform the public and private land owners of the potential threats resulting from post-fire watershed response.

Areas of concern:

Communicate to local law enforcement and emergency management services that routes providing ingress and egress throughout the burn area may become compromised. This may result in loss of access by emergency response vehicles.

Coordinate with and inform area Tribes regarding burned area conditions that may affect tribal activities in the burned area, including any post-fire increased hazards, potential for changes in traditional cultural uses and resources, and the timing of BAER implementation activities to minimize potential conflicts with traditional cultural activities.

Coordination

	Rate	**Days**	**Cost**
Forest BAER Coordinator (GS-12)	$380	1	$380
		Total Cost	**$380**

Implementation Tracking and Required Reporting of Authorized Emergency Response Actions

	Rate	**Days**	**Cost**
Forest BAER Coordinator (GS-12)	$380	2	$760
		Total Cost	**$760**
		TOTAL	**$1,140**

l. **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.)

None recommended.

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

			NFS Lands			Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
L-01 EDRR	acre	5,916	1.8	$10,649	$0		$0		$0	$10,649
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$10,649	$0		$0		$0	$10,649
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										
RT-01 Culvert downtub	Lump Sum	3,000	1	$3,000	$0		$0		$0	$3,000
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$3,000	$0		$0		$0	$3,000
D. Protection/Safety										
PS-01 Hazard Warning Sign	sign	650	4	$2,600	$0		$0		$0	$2,600
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$2,600	$0		$0		$0	$2,600
E. BAER Evaluation										
Initial Assessment	report		1	$6,000			$0		$0	$6,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$6,000	$0		$0		$0	$6,000
F. Monitoring										
Coordination/Consultation	lump sum	$1,140	1	$1,140	$0		$0		$0	$1,140
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$1,140	$0		$0		$0	$1,140
G. Totals				$23,389	$0		**$0**		**$0**	**$23,389**
Previously approved										
Total for this request				**$23,389**						

-6000
$17,389

PART VII - APPROVALS

1. _____ Forest Supervisor (signature) — 11/6/15 Date

2. Barnie T. Grant Regional Forester (signature) — 11/10/2015 Date