USDA-FOREST SERVICE FS-2500-8

Date of Report: 09/22/15

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 Reguest (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: Woodrat B. Fire Number: ID- NCF-000679

C. State: ID D. County: Idaho

E. **Region**: <u>01</u> F. **Forest**: <u>Nez Perce-Clearwater</u>

G. District: Lochsa Ranger District H. Fire Incident Job Code: P1J1PF

I. Date Fire Started:8/14/15

J. Date Fire Contained: estimated 95% contained

as of 9/2

K. Suppression Cost: \$4,062,560 as of 9/17

L. Fire Suppression Damages Repaired with Suppression Funds

- 1. Dozer Fireline repaired (miles): 42.7 as of 09/21/2015
- 2. Hand Fireline repaired (miles): 3.4 as of 09/21/2015

M. Watershed Numbers (as of 8/24/2014):

6 th HUC	HUC Name	Acres Burned
170603040201	Big Smith Creek – Middle Fork Clearwater River	2545
170603040203	Sutler Creek-Middle Fork Clearwater River	2504
170603040202	Maggie Creek	1095
170603060204	Middle Lolo Creek	293
170603030707	Pete King Creek	17

N. **Total Acres Burned** (as of 08/24/2014): <u>6459</u>

NFS: <u>2256</u> State: <u>392</u> Other: <u>270</u>

- O. **Vegetation Types:** Habitat types consist of groups 5 and 6 from the Nez Perce-Clearwater National Forest Target Stand Groups. Group 5 habitat types (moderately cool and moist western red cedar) are characterized by mixed species stands of western red cedar, grand fir, and Douglas fir, with diverse shrub and forb understories. Cedar/Clintonia is the most frequently found habitat type within the group, while western white pine, larch and ponderosa pine are less frequently found. Group 6 habitat types (moderately cool and wet western red cedar) are characterized by stands of grand fir and western red cedar with diverse shrub and forb understories. Cedar/lady fern is the habitat type most frequently found in this group and is generally limited to riparian areas along streams and moist lower slopes in the western part of the subbasin.
- P. **Dominant Soils:** Landtypes on the Woodrat Fire be characterized by four primary units. Landtypes 24, 63, 84A, and 90 are common throughout the burned area. The largest area mapped within the Forest Service lands was Mass Wasted areas (90) indicating the sensitivity of this area for potential for slippage and landslides once vegetation is removed.
- Q. **Geologic Types:** Geology across the Woodrat fire area a mix of volcanic and metamorphosed malfic or basalt with frequent outcrops of gneiss and metasedimentary parent material, resulting in landslide prone deposits. There is also some areas of alluvium near the Middle Fork of the Clearwater River.
- R. Miles of Stream Channels by Order or Class:

National Forest 1st order 13.64 miles, 2nd order 2.16 miles

S. Transportation System

Trails: National Forest 12 miles Other 0 miles **Roads:** National Forest 18 miles Other 0 miles

PART III - WATERSHED CONDITION

- A. **Burn Severity** (acres): <u>1,678</u> (low) <u>308</u> (moderate) <u>163</u> (high) (national forest lands) National Forest Lands, State Lands, and other: <u>34,862</u> (low) <u>5894</u> (moderate) <u>10721</u>(high)
- B. Water-Repellent Soil (acres): (sum of moderate + high) 471
- C. **Soil Erosion Hazard Rating** (acres): <u>1.9</u> (low) <u>308</u> (moderate) <u>2193</u> (high and very high)
- D. **Erosion Potential:** 10.75 tons/acre (average of first two years)
- E. Sediment Potential: between 2,654 cubic yards / square mile to 7,277 cubic yards/square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 1-3 grass, 5-10 shrubs, 20-50 conifers

B. **Design Chance of Success**, (percent): 76

C. Equivalent Design Recurrence Interval, (years): 25 year post-fire

D. **Design Storm Duration,** (hours): 6 and 1 hr

E. **Design Storm Magnitude**, (inches): 0.9 (6hr), 0.7 (1hr)

F. **Design Flow**, (cubic feet / second/ square mile): variable by drainage area

G. **Estimated Reduction in Infiltration**, (percent): 0-80 percent depending on severity

H. **Adjusted Design Flow**, (cfs per square mile): <u>variable by drainage area</u>

PART V - SUMMARY OF ANALYSIS

The Woodrat fire is located in the Woodrat ridge area, just north and west of the community of Syringa and is part of the Motorway Complex. The fire was caused by lightning on Friday August 14, 2105. After burning on on a federal, state and private land it is considered 95% contained.

A. Describe Critical Values/Resources and Threats:

The primary values at risk resulting from the Woodrat Fire are transportation infrastructure (roads, trails and culverts), water quality, and native vegetation communities.

<u>Infrastructure</u>: Due to fire effects, watersheds within the Woodrat Fire burn perimeter are likely to generate higher stormflows in the first few years following the fire. Larger flow events are a function of increased surface runoff from bare hillslopes. Furthermore, burned and exposed soils are more susceptible to erosion, entrainment and transport to stream channels. This combination of increased runoff and greater susceptibility to erosion threatens stream water quality as well as transportation infrastructure and other developments. Transportation infrastructure is a widespread value at risk of damage from post-fire erosion and elevated peak flows below the Woodrat Fire, including roads, trails and culverts.

Roads: There are 18 miles of roads that lie within or immediately downslope of the burn perimeter. Two primary forest roads pass through or immediately downslope of the burned area. Forest Road 101 is a maintenance level 4 arterial road that is the primary or only administrative and public access route to over 100 square miles of national forest land including access to the Lewis and Clark Trail, the Nee Me Poo Trail, and the Lolo Motorway. Forest Road 5503 is a primary administrative and public access route to the Swan creek, Little Smith creek and Big Smith creek drainages and the Woodrat Mountain Communication site.

Ten road-stream crossings were evaluated on the two primary open roads both within and immediately downslope from the burn perimeter. Another stream culvert was evaluated on forest road 5502-A which is a road that is maintained for administrative use only. These crossings were evaluated for flow capacity in order to determine their adequacy to convey post-fire design storm flow events. Under post-fire conditions, model output suggests that six of these drainages would likely see an increase in post-fire runoff that would substantially exceed culvert capacity and overtop roads, likely leading to failure of the crossing, road damage, and sedimentation of streams. Furthermore, inadequate road drainage to accommodate anticipated increases in post-fire overland flow from side slopes to roads may also lead to erosion of the roadbed and subsequent damage to road segments below burned hillslopes.

Although the capacity of other major stream crossings was determined to be adequate in the post-fire environment, most culverts at small, mostly ephemeral drainages were judged to be at increased risk of clogging from debris/sediment slides. These culverts typically serve a dual purpose of passing episodic flow from the drainage and ditch storm flow from the road. Burned hillslopes will likely result in higher runoff to the road and to the small drainages. These steep drainages are also more susceptible

to small debris torrents or slides. This type of occurrence often plugs the culvert inlet, resulting in flow across the road surface or down the ditch, eroding the road and delivering considerable volumes of sediment to the stream below (in this case, tributaries to the Middle Fork Clearwater River). These pipes are not set deeply, and are usually at the base of an over-steepened drainage bottom. Thus, a larger culvert is generally not feasible or effective in the post-fire setting. Vertical drop-structures installed at the inlet are effective at protecting the inlet from being plugged by small debris slides and thus increasing the probability that the culvert will function during runoff events. An armored rolling dip installed in the road in the downslope direction from the culvert inlet reduces the likelihood of runoff damaging a large segment of road in the event of a clogged culvert inlet.

Risk Assessment: Threats to Forest Service roads.

Probablity of Damage or Loss: Likely – High potential of road drainage failure due to post-fire flows.

Magnitude of Consequence: Major - Risk to public safety, employee/contractor safety, and loss

of FS infastructure Risk Level: Very High

Trails: Trails have not been assessed at this time. An interim request may be submitted for trail needs.

<u>Water quality</u>: The streams in the burned area generally maintain good water quality. Erosion from steep burned hillslopes would compromise water quality through transport and depostion of fine sediment in important fishery streams. The elevated erosion and potential failures from roads also compromise water quality. No standalone treatments are proposed to mitigate potential post-fire impacts, however proposed treatments to improve road and trail drainage to will provide protection for water quality as well.

Risk Assessment: Threats to water quality.

Probablity of Damage or Loss: Likely – High potential sediment impacting water quality due to post-fire erosion and increased flows.

Magnitude of Consequence: Moderate – damage to critical natural or cultural resources resulting in considerable or long term effects

Risk Level: High

<u>Fisheries</u>: The Middle Fork of the Clearwater, Swan creek, Little Smith creek, Big Smith creek and Maggie Creek are located within the Woodrat fire perimeter. The Middle Fork of the Clearwater serves as migration corridor for threatened (steelhead, Chinook salmon, bull trout) and other resident fish species (Pacific lamprey), while Little Smith and Big Smith creeks support spawning and rearing habitat for sensitive (westslope cutthroat trout) species. There is designated Steelhead Critical Habitat throughout much of Maggie Creek, however, the headwaters which, burned at moderate to high intensity are located on state lands so there will be no proposed BAER treatments here.

Although few Riparian Habitat Conservation Area's (RHCA) burned with moderate to high intensity, burn severity in reaches of Little Smith and Big Smith Creeks and the existing FS 5503 and 101 roads potential post-fire effects from the Woodrat fire could include some surface erosion and sediment delivery, and debris flows. These post-fire effects are unlikely to impact the survival of ESA-listed fish eggs, fry, juveniles and adults or alter Essential Fish Habitat and channel conditions downstream in the MF Clearwater given the distance debris flow would have to travel and existing available habitat. Westslope cutthroat trout could be more at risk from these post fire effects. The predicted pulses of sediment or debris torrents within the headwater of these tributaries could impact these isolated populations, altering rearing and spawning habitat and even impeding passage/movement in some areas. Road treatments could greatly lessen post fire effects to these fish and include culvert replacements on Big Smith Creek on the FS 101 road and Little Smith Creek on FS 5503 road for fisheries benefit and to improve/maintain stream channel stability.

The probability of increased fine sediment or post fire debris flows reaching fish bearing streams and

adversely affecting habitat or directly impacting native fish is possible (10% to 49% possible occurrence within 1-3 years) and the magnitude of consequences would be moderate (damage to critical fisheries resources resulting in long-term habitat effects, although isolated). Therefore, the risk determination is intermediate (BAER risk matrix).

Risk Assessment: Threat to TES fisheries habitat.

Probablity of Damage or Loss: Possible – increased fine sediment or post fire debris flows reaching fish bearing streams and adversely affecting habitat or directly impacting native fish is possible (10% to 49% possible occurrence within 1-3 years)

Magnitude of Consequence: Moderate – damage to critical fisheries resources resulting in long-

term habitat effects, although isolated

Risk Level: Intermediate

<u>Native vegetation</u>: Inventories have found 2 noxious weed species (Spotted knapweed and Canada thistle) within the perimeter of the Woodrat Fire perimeter. Currently, the Lochsa Ranger District conducts integrated weed management strategies that deal with weed infestations within the fire areas based on priorities outlined in the Annual Operating Plan for the Clearwater Basin Weed Management Area, a community based cooperative (CBWMA). Idaho's noxious weeds are plant species that have been designated "Noxious" by law in the Idaho Code (title 22, chapter 24, "Noxious Weeds").

Susceptible habitats within the fire contain known infestations of Spotted knapweed, Yellow hawkweed, and Canada thistle. Small spot infestations of these noxious weeds are scattered along forest roads 101, 5503, 5504, 5502, and 455 which run through the fire perimeter. Other discrete or small populations were identified within the disturbed soils on Drop Points: 530, 535, and 525.

During the BAER team evaluation of the Woodrat Fire, scattered populations of Spotted knapweed and Canada thistle were found along forest roads 5502, 5503 and the 101 road.

Fire intensities were generally Low to Moderate, with High intensity burns occurring in pockets on steep slopes and areas of diseased/dead trees. Most grasses and shrubs in or near infested sites should regenerate because roots and crowns remained intact. However, highly susceptible habitats, existing infestations and exposed mineral soils along roads, trails, and campgrounds greatly increase the risk of invasive weed spread as a result of fire disturbance. The risk of weed expansion has dramatically increased within the Woodrat Fire due to the interaction of the weed expansion factors and poses a serious threat to ecosystem health.

Risk Assessment: Threats to native plant communities due to the establishment or spread of noxious weeds.

Probability of Damage or Loss: Very Likely - Based on moderate and high burn severity and proximity to known weed infestations.

Magnitude of Consequence: Major – Loss of native plant communities and spread of noxious weeds.

Risk Level: Very High

Soil Productivity: Soils in the Woodrat Fire burn area consist primarily of a 6-10 inch volcanic ash mantle over soils derived a mix of volcanic and metamorphosed malfic or basalt with frequent outcrops of gneiss and metasedimentary parent material. The ash mantle on this sites is the primary source of the ecosystem productivity. An analysis was completed showing the post-fire soil erosion hazard. The Soil Resource Specialist Report includes a description of soil characteristics key to estimating and understanding post-fire soil recovery and burned area response to precipitation events. One critical factor includes soil erosion hazard. Natural Resource Conservation Service's published soil data identifies the majority of the area within the USFS Woodrat Fire perimeter contains soils rated as having severe or very severe erosion hazard. While there is a high risk to soil productivity, no standalone treatments are proposed to mitigate potential post-fire impacts due to lack of a cost effective treatment option.

Risk Assessment: Threat to Soil Productivity

Probablity of Damage or Loss: Likely – Increased erosion and loss of ash mantle

Magnitude of Consequence: Moderate - Loss of long-term soil productivity with high probability

of immediate detrimental soil displacement

Risk Level: High

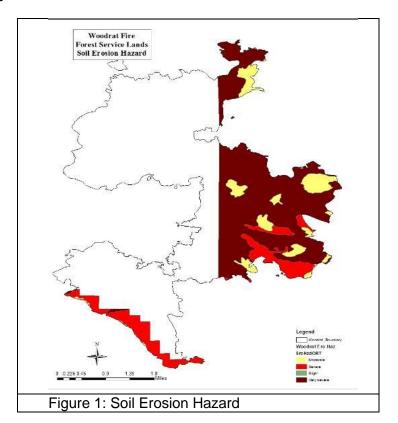




Figure 2: An area of moderate soil burn severity on the Woodrat Fire



Figure 3: An area of high soil burn severity on the Woodrat fire

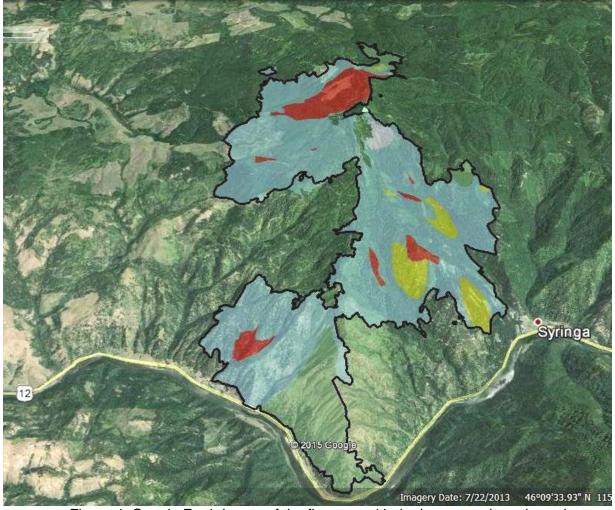


Figure 4: Google Earth Image of the fire area with the burn severity ratings shown.

<u>Heritage</u>: After a review of the Nez Perce National Forest Heritage Resource Department files, it was determined there was no heritage sites on National Forest lands in the Woodrat Fire area.

B. Emergency Treatment Objectives:

Emergency treatment objectives are to protect roads, and culverts susceptible to damage from erosion and elevated runoff within and immediately downstream of the burned area, and to prevent the expansion of noxious weeds in areas burned in the fire, while providing for BAER implementation worker safety through the removal of hazard trees.

In accordance with the revised Forest Service manual, the risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2014-1 was used to evaluate the Risk Level for each value identified during the Wash Fire BAER assessment. Only treatments directly addressing FS Values at Risk with a rating of High or above are being requested for BAER authorized treatments.

Probability of	Magnitude of Consequences			
Damage or Loss	Major	Moderate	Minor	
	RISK			
Very Likely	Very High - Native Veg	Very High	Low	
Likely	Very High - Roads/Trails	High	Low	
Possible	High	Intermediate	Low	
Unlikely	Intermediate	Low	Very Low	

Roughly thirty percent of the burned area was of moderate to high severity. Much of the burned area is on steep hillslopes with highly erosive soils. Thus, even moderate burn severity slopes devoid of overstory canopy or ground cover are at heightened risk of severe erosion and greatly increased runoff. Burned slopes in the headwaters of Maggie Creek mostly lie on steep sideslopes dropping into the stream, and on rolling uplands between tributaries. The burn on Sulter Creek is mostly moderate with areas of high severity interspersed and lies on landtypes similar to as Maggie Creek. Most of this is on state lands. Areas of Swan Creek, Little Smith and and a small portion Big Smith Creek burned on steep sideslopes, mostly located on National Forest Lands. Due to the steepness of these slopes and the high erosion hazard, burn severity alone is an inadequate indicator of post-fire erosion and runoff risk.

<u>Native Vegetation:</u> Weed treatments will concentrate on the areas of known weed infestations in an attempt to counter fire-induced weed spread. Immediate weed treatment is needed to prevent known weed infestations from quickly flourishing after the fire and creating large sources of new weed seeds. These areas have high public use, which could exacerbate the spread of the existing populations.

<u>Transportation Infrastructure (Roads/Trails):</u> Mitigate effects of changed post-fire watershed response (runoff, erosion, and deposition) by adding road and trail drainage features in the vicinity of the fire-affected drainages.

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

Land 70% Channel N/A Roads/Trails 70% Protection/Safety 90%

D. Probability of Treatment Success

	Years after Treatment					
	1 3 5					
Land	70%	*	*			
Channel	NA	NA	NA			
Roads/Trails	90%	90%	90%			
Protection/Safety	90%	90%	90%			

^{*}will depend on follow-up weed treatment not funded through BAER

E. Cost of No-Action (Including Loss): >\$500,000

The potential cost of no action includes the failure of culverts/stream crossings on major roads in the burned area, severe erosion damage on several public roads needed for FS and public access, and entrainment and deposition of road sediment in fishery streams. The cost of repairing roads, and stream crossings would most likely exceed the cost of the selected alternative. The value of critical habitat for ESA listed fish species as well as species of concern cannot be easily quantified, but would likely far exceed the cost of the sediment mitigation measures proposed here. Westslope cutthroat trout could be impacted from these post fire effects. These populations are assumed to be resident, meaning they forage, overwinter and spawn in the same stream year round. The predicted pulses of sediment or debris torrents within the reaches of Little and Big Smith Creeks could affect these isolated populations, altering rearing and spawning habitat and possibly temporarily impeding passage/movement in some areas. Road treatments could greatly lessen post fire effects to these fish. The cost of replacing the habitat for cutthroat trout would far exceed the costs of road mitigations.

F. Cost of Selected Alternative (Including Loss) ~ \$83,175.00

Treatments	Costs
Land Treatments (Native Vegatation) = \$7,400.00	Treatment costs = \$300/acre x 22 acres = \$6,600.00 Average treatment cost (including prep and pre-treatment flaggng of sites = \$250.00/acre Average chemical/PPE cost = \$50.00/acre
	Implementation Monitoring = \$800.00 Two days @ \$400.00/day
Transportation Infastructure	Road drainage improvements = \$24,075.00
= \$74,275.00	Stream culvert upgrades = \$45,000.00
Roads	Hazard tree removal = \$2,400.00
= \$74,275.00	_ Storm patrol = \$2,800.00
Protection/Safety	Warning signs = \$1,500.00
= \$1,500.00	

G. Skills Represented on Burned-Area Survey Team:

[x] Hydrology	[x] Soils	[] Range	[x]Weeds
[] Forestry	[] Wildlife	[] Fire Mgmt.	[x] Engineering
[] Contracting	[x] Ecology	[] Botany	[x] Archaeology
[x] GIS	[] Air Quality	[] Research	[x] Fisheries
[x] Recreation			

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Forest BAER Coordinator: Cara Farr

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Core Team Members:

- Marci Nielsen-Gerhardt Team Lead
- Dave Callery Hydrology
- Andre Snyder Hydrology
- Jim Gries Soils
- Rebecca Lloyd Soils (t)
- Chris Martin Engineering (t)
- Pete Robichaud Research

- Heather Berg Recreation
- Randy Boedy Heritage
- John Warofka Noxious Weeds
- Katie Howisey Noxious Weeds (t)
- John Hutchison GIS
- Allison Johnson Fisheries

H. Treatment Narrative:

Land Treatments:

Noxious weed control with herbicides is recommended for new populations of current and new invader weed species within the Woodrat Fire. Herbicide applications will follow the requirements and mitigation outlined under the latest NEPA and Biological Assessment for listed fish species. A weed management strategy within the Clearwater River Basin Weed Management Area, an interagency cooperative, is currently in place.

Inventory of burned areas near and on roads, dozer and hand lines, drop points, camps and any susceptible sites for both current and new invader weed populations, and monitoring of weed control methods should be initiated to determine potential for weed spread and effectiveness of treatments.

- > Treat satellite infestations of Spotted knapweed & Canada thistle along Forest Roads 101, 5503, 5504, 5502, & 455 within the burned area. The knapweed population along the road system is contributing a seed source and the road system is acting as a spread corridor for further expansion into the burned areas.
- Treat small infestations of spotted knapweed on Drop Points 535, 530, & 525.
- > Treat single site occurrence of Yellow hawkweed along Forest Road 101.
- Monitor weed populations within and adjacent to the fire to determine if the combination of fire disturbance and susceptible habitat facilitates weed spread or increases weed densities, along with post treatment effective monitoring.

Channel Treatments: No channel treatment prescribed at this time

Transportation Infastructure (Road/Trail) Treatments:

Road Treatments: Road treatments will be targeted at effectively draining anticipated increased runoff in the first several years following the fire. Efforts will include clearing of clogged ditches and cross drain inlets and outlets, re-establishment of damaged/non-functional ditches, as well as replacement of burned drainage structures and cross drains. Armored rolling dips will be installed immediately downslope of most stream crossings in order to protect the road prism in the event of a flood event that overtops the road. Work will be done on open roads within the burned area that were judged to be at high risk of elevated post-fire runoff. To provide for worker safety during implementation of road drainage improvements, hazard trees along the roads will be removed. Roads have generally been snagged as part of suppression efforts, but blowdown has been especially frequent an ongoing safety hazard, especially with cedar. Without proposed treatments, overland flow and erosion will likely damage the roads as well as transport sediment to streams, impacting water quality and aquatic habitat. In the steep terrain and landslide-prone soils of the burned area, increased runoff would likely impact roads in the first year following the fire.

District personnel should plan to be available for "storm patrol" of area roads during larger runoff events, and be prepared to unclog the inlets of culverts and other emergency road drainage work, especially in the first year following the burn.

All of the culverts determined to be undersized for their respective post-fire design events are recommended for upgrade on forest roads 101 and 5503. The Swan Creek culvert on road 5502A should be upgraded or replaced with an armored ford.

Culverts: A hydrologic analysis was completed to determine areas of potentially increased flows
from burned areas. After areas of concern were determined, an extensive analysis was completed
on each of the main culverts on their respective roads. All of the culverts determined to be

undersized for the post-fire design event are recommended for upgrade as seen in the following table.

• Rolling Dips / Water Bars: Rolling dips and water bars are recommended to be constructed to effectively drain the effected road prisms. This temporary drainage structure will help to maintain the transportation system within the burn perimeter during increased flows.

Table 1. Recommended culvert upgrades to accommodate post-fire 25-year event

Site	Drainage mod-high burn severity	Current culvert	Recommended culvert
5503 Culvert A	19%	24" round	57"x38" pipe arch
5503 Culvert B	44%	24" round	57"x38" pipe arch
101 @ Big Smith Creek	13%	24" round	42"x29" pipe arch
5503@Little Smith Creek	28%	24" round	42"x29" pipe arch
101@Swan Creek	27%	36" round	77"x52" pipe arch

Hazard Tree Removal:

Selective hazard tree removal is recommended for health and safety of workers during BAER treatment implementation within the burn area. The hazard tree removal will occur at the treatment locations along road and trail prisms. This will only address immediate safety needs of BAER personnel. Additional hazard tree removal will be needed for long-term safety.

Protection/Safety Treatments:

Warning signs will be posted along roads and at trailheads about entering burned area and associated hazards.

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.)

Storm Inspection and Response:

Since increased runoff from burned slopes is not entirely predictable, continued storm monitoring along roads and trails within the burn perimeter has been prescribed. This will ensure that problems with the transportation system due to increased runoff are determined early, and solutions can be formed before a failure occurs.

Weed Treatment Effectiveness Monitoring:

In 2016 all of the known areas of infestation will be re-surveyed by NP-CNF Weeds staff. Any noxious weed populations not effectively treated during initial treatment efforts will be targeted for additional herbicide application.

VI – Emergency Stabilization Treatments and Source of Funds

		NFS Lands				
		Unit	# of		Other	
Line Items	Units	Cost	Units	BAER\$	\$	
A. Land Treatments						
Weed treatment & assessment	acre	300	22	\$6,600		
Subtotal Land Treatments				\$6,600	\$0	
B. Channel Treatments						
Subtotal Channel Treat.				\$0	\$0	
Gubtotai Charmer Freat.				ΨΟ	Ψ0	
C. Road and Trails						
install rolling dips	each	200	16	\$3,200		
install drop inlets with lids	each	625	15	\$9,375		
clean ditch and grade road	mile	500	13	\$6,500		
aggregate surfacing	mil e	4	5000	\$5,000		
Road 5503 upsize culvert	each	12,000	1	\$12,000		
Road 101 upsize culvert	each	14,000	1	\$14,000		
Rd 5503-A upsize culvert	each	9,000	1	\$9,000		
Rd 5503-B upsize culvert	each	10,000	1	\$10,000		
Hazard tree removal	mile	800	3	\$2,400		
Storm Patrol on Roads	day	280	10	\$2,800		
Subtotal Road & Trails				\$74,275	\$0	
Approved				\$69,275		
D. Protection/Safety						
Warning signs	ea	150	10	\$1,500		
Subtotal Structures				\$1,500	\$0	
E. BAER Evaluation					** ** ** ** ** ** ** ** ** ** ** ** **	
Assessment					\$11,618	
Subtotal Evaluation					\$11,618	
F. Monitoring						
Weed treatment effectiveness	day	400	2	\$800		
Subtotal Monitoring				\$800	\$0	
G. Totals				\$83,175	\$0	
A				£70.475	C44 C4C	
Approved				\$78,175	\$11,618	

PART VII - APPROVALS

1	/2015
Cheryl Probert, Nez Perce-Clearwater NF Forest Supervisor	Date
2 <u>.</u>	/2015
Region 1 Regional Forester	Date