



File Code: 2520
Route To: 6520; 5180

Date: **OCT 22 2015**

Subject: Burned Area Emergency Response Authorization Red River Complex Fire. Nez Perce-Clearwater National Forest

To: Forest Supervisor Nez-Perce Clearwater National Forest

We have received your October 19, 2015 request for Burned Area Emergency Response (BAER) for the Red River Complex Fire on the Nez Perce-Clearwater National Forest. We approve your funding request for \$53,730 to implement weed treatment and road treatments. All treatment must be completed within one year of containment. The fund code H1J2EJ16 0117 will be established for the following parts of the request:

Treatments	Units	Cost	No. of Units	Total Cost
A. Land Treatments				
Weed Treatment and Assessment	Acre	\$71	250	\$17,750
B. Road and Trail Treatments				
RT-1 Road Storm Inspection	Each	\$1,528	3	\$4,584
RT-2 Culvert Replacement	Each	\$7,849	4	\$31,396
Total				\$53,730

The fire containment is currently below 100 percent and minor fire activity may persist until snow begins in late October. However, for administrative purposes containment is assumed such that all authorized treatments must be completed within one year of this approval date. Additional direction on the standards and procedures for emergency actions are found in ID-2520-2013-1 and FSH 2509.13.

Funds are currently available for the project, but could be restricted later. If this happens you will be contacted by the Regional Budget Officer regarding specific spending restrictions and procedures.

If implementation identifies the need for additional resources, an interim request can be submitted. Include revised cost estimates, needs, and a brief report of accomplishments to date. Please send final FS-2500-8, describing treatments completed and associated costs, within 60 days after completing treatments. As a reminder, we need all accomplishments reported in the applicable reporting system. If you have questions, please contact Vince Archer, Regional BAER Program Manager, at (406) 329-3412 or (559) 920-6598.

Per 
LEANNE M. MARTEN
Regional Forester

Enclosure

cc: Penny A Luehring, Michele Windsor, Ralph Rau, Ed Snook, Terry Nevius, Jeff Shinn, Cara Farr, Linda Hoglan, Vince Archer, Amy Jensen





Forest Service

Nez Perce – Clearwater National
Forests
Supervisor's Office

903 3rd Street
Kamiah, ID 83536
208-935-2513
FAX: 208-935-4275

File Code: 2520
Route To:

Date: October 16, 2015

Subject: Red River Complex Initial Burned Area Emergency Response Request
To: Leanne Marten, Northern Region Regional Forester

Enclosed is a Burned Area Emergency Response Authorization request for the Red River Complex Fire on the Nez Perce-Clearwater National Forest. The fire has burned approximately 42,231 acres, 42,057 acres of which are National Forest System lands.

The Elk City Complex Fire burned primarily in the Cache Creek, Poet Creek and Lower Bargamin Creek drainages. Values at risk include critical infrastructure in roads and native vegetation communities near areas infested with noxious weeds. This BAER request would provide culvert stabilization, drain dip construction, post-storm road inspections and weed treatment. Treatments target important risk reductions in road washout and spread of invasive weeds. We understand that all treatments must be completed within one year of fire containment, and that subsequent maintenance of initial treatments may be funded in years 2 and 3 following the fire should monitoring indicate the need. This does not include non-emergency measures for health and safety restoration and watershed protection.

The total cost of the proposed treatments is \$53,730.

Please contact Cara Farr, Nez Perce-Clearwater BAER Coordinator (208-983-4045), if you have any questions or concerns regarding this matter.



CHERYL E. PROBERT
Forest Supervisor

cc: Vince Archer, Michele Windsor, Ralph Rau, Ed Snook, Terry Nevius, Jeff Shinn, Cara Farr



PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The primary values at risk resulting from the Red River Complex fires are transportation infrastructure (roads, trails and culverts) and native vegetation communities.

Infrastructure: Due to fire effects, both moderate and intense snowmelt and rain events are likely to cause moderate erosion on steep hillslopes throughout the burned area. Additionally, reduced canopy interception, combined with lack of groundcover and hydrophobicity will cause increased runoff response compared to pre-fire conditions. Thus, streams in and downstream of the burned area are likely to generate higher stormflows in the first few years following the fire. Larger flow events in part are a function of increased surface runoff from bare hillslopes. Furthermore, burned and exposed soils are more susceptible to entrainment and transport to stream channels. This combination of increased runoff and greater susceptibility to erosion threatens transportation infrastructure.

Roads: BAER team assessments indicate transportation infrastructure necessary for forest management and recreational access is a value at risk from post-fire erosion and elevated peak flows below burned slopes in the Red River Complex fires. Roads are also at risk from fire damage to drainage infrastructure, specifically burnt HDPE culverts. Replacing damaged pipes within the burned area is needed to prevent costly damage to the road structure from post-fire runoff.

Increased discharge in drainages and across road cut and fill slopes is expected to increase due to the Noble Fire. The FR421 road is threatened by increased runoff at (4) stream crossing pipes and 2 more cross-drain pipes where moderate to high burn severity has occurred above the road. Some of the 18" HDPE culverts along FR421 have been damaged at the inlet, outlet, or completely consumed by the fire. Those culverts that are no longer functional or have a high probability of being blocked with debris are threatened by post fire flooding. Replacing the non-functional culverts would retain access and reduce the probability of overtopping and road washout. Those culverts that are still functional, with only slight damage at the inlet or outlet will not be replaced with emergency funds. Armoring of the road surface and the downstream side of the road fill at road-stream crossings where post fire flows are projected to be the greatest could resist scour and erosion of the road prism in the event of culvert blockage and flow over the road. FR421 to Whitewater Ranch provides important recreational access to the Salmon River during the summer months.

This road would also benefit from post-storm inspections to determine if heavy equipment, culvert inlet cleaning or similar actions are needed to prevent further damage or restore access.

Aside from roads and culverts, no Forest Service or private structures were judged to be at risk from post-fire floods or debris flows. There is a low potential for overland flow to affect private lands around Mallard Ranch, due to low contributing area, low to moderate burn severity and few swales to concentrate surface flows. The stream also separates most ranch buildings from the burned slopes. One residence on the South side of Mallard Creek may experience nuisance flooding as it does not have a good slope to drain surface water away from the structure.

Risk Assessment: Threats to Forest Service roads and associated structures

Probability of Damage or Loss: Very Likely – High potential of road damage due to post-fire flows.

Magnitude of Consequence: Moderate – moderate damage to FS infrastructure and temporary loss of access to an important recreational access.

Risk Level: High

Trails: Approximately 42 miles of trails were affected by the Red River Complex Fires. Burn severity around these trails varies, but no BARC is currently available to help determine trail miles within high and moderate burn severity. Considering the extensive trail network and range of severity, trail damage and some off-trail erosion/sediment delivery to channels is likely to occur. Trail incision and complete loss of trail tread could occur, therefore resulting in loss of infrastructure possibly leading to significant repairs and costs to restore sections of trail. Loss of water control may lead to off-trail slope erosion and gully

Date of Report: 09/25/15

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- 1. Funding request for estimated emergency stabilization funds
- 2. Accomplishment Report
- 3. No Treatment Recommendation

B. Type of Action

- 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: Red River Complex

B. Fire Number: See table below

<u>FIRES</u>	<u>P-Code</u>	<u>Incident Order Number</u>
<u>Red River Complex</u>	<u>P1J2EJ (0117)</u>	<u>ID-NCF-000949</u>
<u>Lone Park</u>	-	<u>ID-NCF-000938</u>
<u>Crown</u>	-	<u>ID-NCF-000497</u>
<u>Noble</u>	-	<u>ID-NCF-000820</u>
<u>Little Green</u>	-	<u>ID-NCF-000698</u>
<u>Rattlesnake</u>	-	<u>ID-NCF-000780</u>
<u>Slaughter</u>	-	<u>ID-NCF-000942</u>

C. State: ID

D. County: Idaho

E. Region: 01

F. Forest: Nez Perce-Clearwater

G. District: Red River Ranger District

H. Fire Incident Job Code: P1J2EJ (0117)

I. Date Fire Started: 08/10/2015

J. Date Fire Contained: Not yet contained, estimated 10/30/2015

K. Suppression Cost: \$8,500,000 as of 09/21/2015 (Seiway/Red River/Elk City Complex)

L. Fire Suppression Damages Repaired with Suppression Funds (estimates)

1. Dozer Fireline repaired (miles): 15 as of 09/22/2015
2. Excavator Fireline repaired (miles): 10 as of 09/22/2015

3. Feller Buncher Fireline repaired (miles): 5 as of 09/22/2015
4. 2. Hand Fireline repaired (miles): 3 as of 09/22/2015

M. Watershed Numbers (as of 9/22/2015, No BARC available):

Fire	HUC	Watershed Name	Acres Burned
Noble	170602070304	MIDDLE BIG MALLARD CREEK	1,002
Noble	170602070303	JACK CREEK	935
Noble	170602070307	BAT CREEK	1,123
Noble	170602070302	GROUSE CREEK	652
Noble	170602070301	NOBLE CREEK	438
Noble	170602070309	LOWER BIG MALLARD CREEK	1,904
Crown	170603020213	CABIN CREEK	201
Crown	170602070401	GREEN MOUNTAIN CREEK	118
Crown	170603020214	TOP MEADOW CREEK	2,586
Crown	170602070404	POET CREEK	1,192
Crown	170602070427	PORCUPINE CREEK	4,040
Crown	170602070430	UP-MIDDLE BARGAMIN CREEK	119
Crown	170602070406	MIDDLE BARGAMIN CREEK	3,375
Crown	170602070423	CACHE CREEK	5,535
Crown	170602070426	PROSPECTOR CREEK	1,425
Crown	170602070305	UPPER BIG MALLARD CREEK	1,993
Crown	170602070304	MIDDLE BIG MALLARD CREEK	242
Crown	170602070425	UNNAMED NO. 25 CREEK	1,448
Crown	170602070306	SOUTH FORK BIG MALLARD	2,311
Crown	170602070422	SALT CREEK	3,242
Crown	170602070418	LOWER BARGAMIN CREEK	3,435
Crown	170602070424	LAKE CREEK	1,403
Crown	170602070421	RAINEY CREEK	846
Little Green	170603020211	UPPER MEADOW CREEK	389
Little Green	170603020212	THREE PRONG CREEK	647
Little Green	170603020213	CABIN CREEK	343
Little Green	170602070401	GREEN MOUNTAIN CREEK	8
Rattlesnake	170602070418	LOWER BARGAMIN CREEK	0
Rattlesnake	170602070417	RATTLESNAKE CREEK	522
Rattlesnake	170602070499	SALMON RIVER FACE 0207-04	760

- N. Total Acres Burned (as of 09/21/2015): 42,231 acres (GIS acres using fire perimeter)
 NFS: 42,057 State: N/A Private: 174

O. **Vegetation Types:** Habitat types include mixed conifer and lodgepole pine, with understories of huckleberry and beargrass, with cool moist types (Subalpine fir and Grand fir) on shady aspects and in riparian areas. Spruce and Grand fir are common in wetter areas, and Douglas-fir is common through much of the fire area. Many stands are decadent lodgepole with substantial mortality and advanced regeneration or subalpine fir establishment. Some Western Red Cedar is present but is only common within the lower elevation riparian areas.

P. **Dominant Soils:** Surface soil textures in the complex were dominantly sandy loams. The soil profile contains coarse fragments ranging from 10 to 30 percent in most locations. Pre-fire organic horizons (duff)

typically range in thickness from one quarter to three inches. These soils are considered to have low to moderate erodibility due to high post-fire structural integrity and abundance of live roots.

Q. **Geologic Types:** Soils in the Red River Complex developed in granite and metamorphic schist, gneiss, and quartzite bedrock with minor areas of Mount Mazama volcanic ash loess mantle.

R. **Miles of Stream Channels by Order or Class:**

National Forest

1st order 72 miles, 2nd order 32 miles, 3rd order 8 miles, 4th order 10 miles

S. **Transportation System**

Trails: National Forest 42.0 miles Other 0 miles
Roads: National Forest 27.5 miles Other 0.5 miles

PART III - WATERSHED CONDITION

A. **Burn Severity** (acres, estimated): 17,315 (low) 14,359 (moderate) 3,801 (high)

B. **Water-Repellent Soil** (acres): (sum of moderate & high = 18,160)

C. **Soil Erosion Hazard Rating** (acres): 905 (low) 32,503 (moderate) 43,549 (high)

D. **Erosion Potential:** 1.6 tons/acre (average of first two years)

E. **Sediment Potential:** 756 yds³/mi²

PART IV - HYDROLOGIC DESIGN FACTORS

A. **Estimated Vegetative Recovery Period, (years):** 2-5 grass/shrubs 20-50 conifers

B. **Design Chance of Success, (percent):** 70

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

D. **Design Storm Duration, (hours):** 2.3-5.7 hrs

E. **Design Storm Magnitude, (inches):** 1.9- 2.4 in.

F. **Design Flow, (cubic feet / second/ square mile):** 20-59

G. **Estimated Reduction in Infiltration, (percent):** 20-30

H. **Adjusted Design Flow, (cfs per square mile):** 66-187

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Roads: BAER team assessments indicate transportation infrastructure necessary for forest management and recreational access is a value at risk from post-fire erosion and elevated peak flows below burned slopes in the Red River Complex fires. Roads are also at risk from fire damage to drainage infrastructure, specifically burnt HDPE culverts. Replacing damaged pipes within the burned area is needed to prevent costly damage to the road structure from post-fire runoff.

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Risk Assessment: Threats to Forest Service roads and associated structures

Probability of Damage or Loss: Very Likely – High potential of road damage due to post-fire flows.

Magnitude of Consequence: Moderate – moderate damage to FS infrastructure and temporary loss of access to an important recreational access.

Risk Level: High

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formation. Once active gullies develop, they can continue to erode during each storm event and contribute to downstream sedimentation and trail instability. Trail location and associated burn severity will be assessed in detail when the BARC is available and an interim 2500-8 will likely be filed.

Risk Assessment: *Threats to Forest Service trails and associated structures*

Probability of Damage or Loss: *Very Likely – High potential for erosion of surface tread and sediment delivery to streams. Soil deposition on trail surfaces from adjacent hillslopes may also occur.*

Magnitude of Consequence: *Major – loss of important recreational trails*

Risk Level: *Very High*

Water quality: The streams in the burned area generally maintain good water quality. Erosion from steep burned hillslopes would compromise water quality through transport and deposition of fine sediment in important fishery streams. The elevated erosion and potential failures from roads and trails also compromise water quality. Treatments to improve road and trail drainage to withstand post-fire events will provide protection for water quality as well. No specific landscape treatments were proposed to reduce water quality effects, as the assessment results suggest burn severity was mostly moderate, and vegetation recovery is likely to be relatively rapid.

Risk Assessment: *Threats to water quality.*

Probability 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*

Native vegetation: Native vegetation communities are at risk from rapid expansion of noxious weeds from existing populations in the burned area. Recent weed inventories conducted within the Red River Ranger District have identified 286 acres of Idaho noxious and invasive weeds occurring within the Red River and Elk City Complex Fires.

Fire intensities were generally Low to Moderate, with High intensity burns occurring in the vicinity of Granite Springs Campground and portions of the Montana Road. Most grasses and shrubs in or near infested sites should regenerate because roots and crowns remained intact. However, highly susceptible habitat, existing infestations and exposed mineral soils along roads, trails, fire lines and camps greatly increase the risk of invasive weed spread as a result of fire disturbance. The risk of weed spread has increased within the roaded portion of the Red River Complex Fire due to the roads acting as weed vectors into the susceptible burned areas.

Most of the previously identified weed infested sites within the fire were either burned or occur adjacent to burned areas. Primary risk comes from the existing infestations within and adjacent to burned area along with introduction of noxious weed seed from firefighting resources. Invasive species detection surveys and treatment within and adjacent to the burned area is warranted. Please see the Invasive Species specialist report for more details.

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*

Heritage: A thorough review of recorded heritage sites was conducted during the BAER assessment. At the time of the initial request, no sites needing protective or stabilizing treatments had been found. Site locations will be compared with the BARC when it becomes available, and some additional review may be needed to determine if any sites are threatened, and would benefit, from BAER treatments.

B. Emergency Treatment Objectives:

- Protect road infrastructure and crossings from flood flows, debris torrents, and other potential erosion events and maintain access;
- Reduce the threat of significant expansion of existing noxious weeds or invasion of new noxious weeds.

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

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

Land (weed treatments) N/A Channel N/A Roads/Trails 70% Protection/Safety N/A

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%

E. Cost of No-Action (Including Loss): >\$150,000

The potential cost of no action includes erosion damage on several public roads needed for FS and public access, and erosion damage and failure of trails. The cost of repairing roads and trails after they are damaged by significant storms would most likely exceed the cost of the selected alternative. The value of protecting the ecological integrity of the burned area from noxious weed infestation likely exceeds the cost of weed treatment and monitoring, although this too was not quantified. Please see page 10 for the attached Cost/Benefit assessment.

F. Cost of Selected Alternative (Including Loss): \$53,730

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 Red River Complex fire BAER assessment. Only treatments that had a risk of Intermediate or above are recommended for BAER authorized treatments.

Treatments	Costs = \$53,730.00
Land Treatments (Native Vegetation)	Treatment costs = \$70.72/acre x 250 acres = \$17,750.00
= \$17,750.00	
Transportation Infrastructure Roads and Trails	Road drainage improvements = \$31,396.00
= \$35,980.00	Storm patrol (roads) = \$4,584.00

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Range	<input checked="" type="checkbox"/> Weeds
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> GIS	<input type="checkbox"/> Air Quality	<input type="checkbox"/> Research	<input checked="" type="checkbox"/> Fisheries
<input checked="" type="checkbox"/> Recreation			

Team Leader: Ed Snook

Email: esnook@fs.fed.us Phone: [406-363-7103](tel:406-363-7103) FAX: [406-363-7106](tel:406-363-7106)

Forest BAER Coordinator: Cara Farr

Email: cfarr@fs.fed.us Phone 208-983-4045

Core Team Members:

Ed Snook - Team Lead

Mark Muir - Hydrology

Derek Milner - Soils

Chandra Neils - Soils (t)

Chris Wolffing - Engineering (t)

Jeremy Harris - Recreation

Steve Armstrong - Heritage

Steve Hiebert - Noxious Weeds

Bill Falvey - GIS

Jeff Hosman - Fisheries

H. Treatment Narrative:

Road and Trail Treatments:

Road treatments will be targeted at effectively draining anticipated increased runoff in the first several years following the fire.

1. Four damaged HDPE culverts will be replaced with new CMPs to prevent road washout and loss of access. Road surfaces over the pipes will be hardened to reduce potential washout at the crossings.
2. Post-storm road inspections will occur after substantial storms to detect and repair any crossing overflow damage that occurs, before subsequent storms make the damage worse.

Locations and extent of trail work have yet to be determined due to lack of a BARC image to determine high and moderate burn severity areas where trail work is needed most. An Interim 2500-8 is planned pending confirmation of need by BARC acquisition and processing. 42 miles of trail are within the Red River Complex fire perimeter. Trail work, if needed, will stabilize segments of the trail system within the burned area that are at high risk of damage from elevated post-fire runoff and erosion. Treatments will consist of replacement of burned drainage structures, installation of new drainage structures in anticipation of greater runoff and erosion, cleaning of existing intact drainage structures, and spot outcropping to improve trail drainage especially on steep slopes and near streams.

Protection/Safety Treatments:

To provide for worker safety during implementation of trail drainage improvements, hazard trees along the trails mentioned above will be removed. Roads have generally been snagged as part of suppression efforts.

Land Treatments:

Noxious weed control with herbicides is recommended for new populations of current and new invader weed species within the Red River Complex Fires. 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. Areas within the burn perimeter infested with noxious weeds will be treated within one year of containment to reduce the spread into uninfested burned areas. If subsequent

monitoring identifies weeds populations not effectively removed with initial treatment. additional treatment will be planned using alternative funds. Many of the weeds are difficult to find the first year after a fires, so the acres of known populations within the burn perimeter will be covered twice in 2016 to ensure that all weeds are located and treated effectively. Other funding sources will be sought in out-years to treat any expansions of noxious weeds identified in subsequent monitoring. All of this work will be accomplished using ground-based equipment. Treatment will include the following:

- Mix of backpack/truck spraying and hand-pulling, as appropriate, in spring/early summer 2016 before weeds begin to seed
- Using approved herbicides and application techniques based on weed species, topography and environmental factors, in compliance with Nez Perce-Clearwater NF Weeds EIS.
- Treatment of road segments within high and moderate burn severity on roads.
- Treatment of trail segments within high and moderate burn severity on system trails.

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.)

Trail and Road Monitoring: Monitoring of road and trail treatments will occur during and after implementation in 2015-16 to ensure that treatment objectives are met. Hillslope and road treatments will be monitored again after snowmelt and during the summer to evaluate effectiveness. Monitoring will be part of the weed assessment and road storm inspection treatments.

Noxious Weed Monitoring: Noxious weed monitoring will be part of the spray and assessment actions noted above. New populations will be mapped, tracked and treated through normal program functions, if BAER treatments and assessment do not eradicate them.

VI – Emergency Stabilization Treatments and Source of Funds

Line Items	Units	Unit Cost	NFS Lands			Other \$	Other Lands				Total \$
			# of Units	BAER \$			# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments											
Weed treatment & assessment	acre	50	200	\$10,000							
Subtotal Land Treatments				\$10,000	\$0					\$0	\$0
B. Channel Treatments											
Subtotal Channel Treat				\$0	\$0		\$0			\$0	\$0
C. Road and Trails											
RJ-1 Road Storm Inspection	each	1,528	3	\$4,584							
RJ-2 Culvert Replacement	each	7,849	4	\$31,396							
	each	0	0	\$0							
Subtotal Road & Trails				\$35,980	\$0		\$0			\$0	\$0
D. Protection/Safety											
	mile	1,500	0	\$0							
	each	50	0	\$0							
Subtotal Structures				\$0	\$0		\$0			\$0	\$0
E. BAER Evaluation											
Assessment					\$7,149		\$0			\$0	\$0
Subtotal Evaluation					\$7,149		\$0			\$0	\$0
F. Monitoring											
	day	0	0	\$0			\$0			\$0	\$0
	day	0	0	\$0							
Subtotal Monitoring				\$0	\$0		\$0			\$0	\$0
G. Totals											
Previously approved				\$53,730	\$7,149		\$0			\$0	\$0
Total for this request				\$53,730							

PART VII - APPROVALS

1. _____ /2015
Cheryl F. Probert, Nez Perce-Clearwater NF Forest Supervisor Date

2.  _____ 10/21/2015
 Leanne Marten, Region 1 Regional Forester Date

**Red River Complex 2015
Cost/Risk Assessment**

Part 1. Treatment Cost

Treatment	cost
1. Road Storm Inspection	\$ 4,584
2. Culvert Replacement	\$31,396
3. Weed Assessment and Treatment	\$24,495
TOTAL COST	\$60,475

Part 2. Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatment	%
1. Road Storm Inspection	85
2. Culvert Replacement	85
3. Weed Assessment and Treatment	70

Risk of Resource Value Loss or Damage

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

No Action- Treatments Not Implemented (check one)

Resource Value	None	Low	Mid	High
Human health and safety		X		
Plant communities at-risk from weed infestation				X
Native Plant community structure, function and composition				X
Aquatic community structure, function and composition		X		
Watershed integrity	X			
Heritage resources		X		
Threatened and Endangered Species (terrestrial)	X			
Threatened and Endangered Species (fish)		X		

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	None	Low	Mid	High
Human health and safety		X		
Plant communities at-risk from weed infestation			X	
Plant community structure, function and composition			X	
Aquatic community structure, function and composition		X		
Watershed integrity	X			
Heritage resources	X			
Threatened and Endangered Species (terrestrial)	X			
Threatened and Endangered Species (fish)		X		

Part 3. SUMMARY

1. Are the risks to natural resources and private property acceptable as a result of the fire if the following actions are taken?

Proposed Action Yes No Rationale for answer:

The engineering/road drainage treatments (armored dips, crossing stabilization, storm patrol, etc.) proposed are effective in stabilizing roads to pass flood events while maintaining access and reducing risks to water quality. The engineering treatments will be effective for stabilizing crossings in order to pass increased water and debris flows.

Major weed invasions can be avoided through early detection, treatment, and monitoring. Several species that exist in the Salmon River Valley (Rush Skeletonweed, Dalmation Toadflax) are not present within the Noble Fire/Red River Complex burned area and have the potential to disrupt and replace currently intact native plant communities. Road and trail systems within the burn area are potential corridors of invasion, and can be effectively monitored and treated.

No Action Yes No Rationale for answer:

There is a high probability of culvert and road prism damage in these areas if no action is taken, creating a need for expensive repairs including hauling of fill from off-site to replace that lost at creek crossings and heavily eroded road segments within burned areas.

Native plant communities would be subject to non-native invasive plant expansion into the burned area while native plants are recovering from the fire.

The areas selected for treatment have a high risk of negative impacts to road infrastructure, water quality and vegetation resources.

Alternative(s) Yes No Rationale for answer:

N/A

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes No Rationale for answer:

The engineering treatments will be effective for stabilizing crossings in order to pass increased water and debris flows, and to protect road segments threatened by post-fire hydrology.

Data obtained in the monitoring programs proposed will detect weed invasion, and road crossing problems.

Monitoring will identify where additional watershed rehabilitation work is required.

The beneficial results of treatment implementation are worth the monetary costs of installation.

No Action Yes No Rationale for answer:

Although the monetary cost of no action is low, weed invasion will produce ecological costs. Risk of new noxious/invasive weed species establishing themselves in the burned area, and invasion of currently weed-free areas is high. Critical areas and infrastructure were identified for treatment through the assessment of burn severity and Ranger District input.

Alternative(s) Yes No Rationale for answer:

N/A

3. Which approach will most cost-effectively and successfully attain the EFR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action , **Alternative(s)** , or **No Action**

Comments:

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- 1. Funding request for estimated emergency stabilization funds
- 2. Accomplishment Report
- 3. No Treatment Recommendation

B. Type of Action

- 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: Red River Complex

B. Fire Number: See table below

FIRE#	F-Code	Incident Order Number
<u>Red River Complex</u>	<u>P1J2EJ (0117)</u>	<u>ID-NCF-000949</u>
<u>Lone Park</u>	<u>-</u>	<u>ID-NCF-000938</u>
<u>Crown</u>	<u>-</u>	<u>ID-NCF-000497</u>
<u>Noble</u>	<u>-</u>	<u>ID-NCF-000820</u>
<u>Little Green</u>	<u>-</u>	<u>ID-NCF-000698</u>
<u>Rattlesnake</u>	<u>-</u>	<u>ID-NCF-000726</u>
<u>Slaughter</u>	<u>-</u>	<u>ID-NCF-000942</u>

C. State: ID

D. County: Idaho

E. Region: 01

F. Forest: Nez Perce-Clearwater

G. District: Red River Ranger District

H. Fire Incident Job Code: P1J2EJ (0117)

I. Date Fire Started: 08/10/2015

J. Date Fire Contained: Not yet contained, estimated 10/30/2015

K. Suppression Cost: \$8,500,000 as of 09/21/2015 (Selway/Red River/Elk City Complex)

L. Fire Suppression Damages Repaired with Suppression Funds (estimates)

1. Dozer Fireline repaired (miles): 15 as of 09/22/2015
2. Excavator Fireline repaired (miles): 10 as of 09/22/2015

3. Feller Buncher Fireline repaired (miles): 5 as of 09/22/2015
4. 2. Hand Fireline repaired (miles): 3 as of 09/22/2015

M. Watershed Numbers (as of 9/22/2015, No BARC available):

Fire	HUC	Watershed Name	Acres Burned
Noble	170602070304	MIDDLE BIG MALLARD CREEK	1,002
Noble	170602070303	JACK CREEK	935
Noble	170602070307	BAT CREEK	1,123
Noble	170602070302	GROUSE CREEK	652
Noble	170602070301	NOBLE CREEK	438
Noble	170602070309	LOWER BIG MALLARD CREEK	1,904
Crown	170603020213	CABIN CREEK	201
Crown	170602070401	GREEN MOUNTAIN CREEK	118
Crown	170603020214	TOP MEADOW CREEK	2,586
Crown	170602070404	POET CREEK	1,192
Crown	170602070427	PORCUPINE CREEK	4,040
Crown	170602070430	UP-MIDDLE BARGAMIN CREEK	119
Crown	170602070406	MIDDLE BARGAMIN CREEK	3,375
Crown	170602070423	CACHE CREEK	5,535
Crown	170602070426	PROSPECTOR CREEK	1,425
Crown	170602070305	UPPER BIG MALLARD CREEK	1,993
Crown	170602070304	MIDDLE BIG MALLARD CREEK	242
Crown	170602070425	UNNAMED NO. 25 CREEK	1,448
Crown	170602070306	SOUTH FORK BIG MALLARD	2,311
Crown	170602070422	SALT CREEK	3,242
Crown	170602070418	LOWER BARGAMIN CREEK	3,435
Crown	170602070424	LAKE CREEK	1,403
Crown	170602070421	RAINEY CREEK	845
Little Green	170603020211	UPPER MEADOW CREEK	389
Little Green	170603020212	THREE PRONG CREEK	647
Little Green	170603020213	CABIN CREEK	343
Little Green	170602070401	GREEN MOUNTAIN CREEK	8
Rattlesnake	170602070418	LOWER BARGAMIN CREEK	0
Rattlesnake	170602070417	RATTLESNAKE CREEK	522
Rattlesnake	170602070489	SALMON RIVER FACE 0207-04	760

N. Total Acres Burned (as of 09/21/2015): 42,231 acres (GIS acres using fire perimeter)
 NFS: 42,057 State: N/A Private: 174

O. Vegetation Types: Habitat types include mixed conifer and lodgepole pine, with understories of huckleberry and beargrass, with cool moist types (Subalpine fir and Grand fir) on shady aspects and in riparian areas. Spruce and Grand fir are common in wetter areas, and Douglas-fir is common through much of the fire area. Many stands are decadent lodgepole with substantial mortality and advanced regeneration or subalpine fir establishment. Some Western Red Cedar is present but is only common within the lower elevation riparian areas.

P. Dominant Soils: Surface soil textures in the complex were dominantly sandy loams. The soil profile contains coarse fragments ranging from 10 to 30 percent in most locations. Pre-fire organic horizons (duff)

typically range in thickness from one quarter to three inches. These soils are considered to have low to moderate erodibility due to high post-fire structural integrity and abundance of live roots.

Q. **Geologic Types:** Soils in the Red River Complex developed in granite and metamorphic schist, gneiss, and quartzite bedrock with minor areas of Mount Mazama volcanic ash loess mantle.

R. **Miles of Stream Channels by Order or Class:**

National Forest:

1st order 72 miles, 2nd order 32 miles, 3rd order 8 miles, 4th order 10 miles

S. **Transportation System**

Trails: National Forest 42.0 miles Other 0 miles
Roads: National Forest 27.5 miles Other 0.5 miles

PART III - WATERSHED CONDITION

- A. **Burn Severity** (acres, estimated): 17,315 (low) 14,350 (moderate) 3,801 (high)
- B. **Water-Repellent Soil** (acres): (sum of moderate & high = 18,160)
- C. **Soil Erosion Hazard Rating** (acres): 905 (low) 32,503 (moderate) 43,549 (high)
- D. **Erosion Potential:** 1.6 tons/acre (average of first two years)
- E. **Sediment Potential:** 756 yds³/mi²

PART IV - HYDROLOGIC DESIGN FACTORS

- A. **Estimated Vegetative Recovery Period, (years):** 2-5 grass/shrubs 20-50 conifers
- B. **Design Chance of Success, (percent):** 70
- C. **Equivalent Design Recurrence Interval, (years):** 10
- D. **Design Storm Duration, (hours):** 2.3-5.7 hrs
- E. **Design Storm Magnitude, (inches):** 1.9- 2.4 in.
- F. **Design Flow, (cubic feet / second/ square mile):** 20-59
- G. **Estimated Reduction in Infiltration, (percent):** 20-30
- H. **Adjusted Design Flow, (cfs per square mile):** 66-187

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The primary values at risk resulting from the Noble Fire/Red River Complex are transportation infrastructure (roads, trails and culverts) and native vegetation communities.

Infrastructure: Due to fire effects, both moderate and intense snowmelt and rain events are likely to cause moderate erosion on steep hillslopes throughout the burned area. Additionally, reduced canopy interception, combined with lack of groundcover and hydrophobicity will cause increased runoff response compared to pre-fire conditions. Thus, streams in and downstream of the burned area are likely to generate higher stormflows in the first few years following the fire. Larger flow events in part are a function of increased surface runoff from bare hillslopes. Furthermore, burned and exposed soils are more susceptible to entrainment and transport to stream channels. This combination of increased runoff and greater susceptibility to erosion threatens transportation infrastructure.

Roads: BAER team assessments indicate transportation infrastructure necessary for forest management and recreational access is a value at risk from post-fire erosion and elevated peak flows below burned slopes in the Red River Complex Fire. Roads are also at risk from fire damage to drainage infrastructure, specifically burnt HDPE culverts. Replacing damaged pipes within the burned area is needed to prevent costly damage to the road structure from post-fire runoff.

Increased discharge in drainages and across road cut and fill slopes is expected to increase due to the Noble Fire. The FR421 road is threatened by increased runoff at (4) stream crossing pipes and 2 more cross-drain pipes where moderate to high burn severity has occurred above the road. Some of the 18" HDPE culverts along FR421 have been damaged at the inlet, outlet, or completely consumed by the fire. Those culverts that are no longer functional or have a high probability of being blocked with debris are threatened by post fire flooding. Replacing the non-functional culverts would retain access and reduce the probability of overtopping and road washout. Those culverts that are still functional, with only slight damage at the inlet or outlet will not be replaced with emergency funds. Armoring of the road surface and the downstream side of the road fill at road-stream crossings where post fire flows are projected to be the greatest could resist scour and erosion of the road prism in the event of culvert blockage and flow over the road. FR421 to Whitewater Ranch provides important recreational access to the Salmon River during the summer months.

This road would also benefit from post-storm inspections to determine if heavy equipment, culvert inlet cleaning or similar actions are needed to prevent further damage or restore access.

Aside from roads and culverts, no Forest Service or private structures were judged to be at risk from post-fire floods or debris flows. There is a low potential for overland flow to affect private lands around Mallard Ranch, due to low contributing area, low to moderate burn severity and few swales to concentrate surface flows. The stream also separates most ranch buildings from the burned slopes. One residence on the South side of Mallard Creek may experience nuisance flooding as it does not have a good slope to drain surface water away from the structure.

Risk Assessment: Threats to Forest Service roads and associated structures

Probability of Damage or Loss: Very Likely – High potential of road damage due to post-fire flows.

Magnitude of Consequence: Moderate – moderate damage to FS infrastructure and temporary loss of access to an important recreational access.

Risk Level: High

Trails: Approximately 42 miles of trails were affected by the Red River Complex Fires. Burn severity around these trails varies, but no BARC is currently available to help determine trail miles within high and moderate burn severity. Considering the extensive trail network and range of severity, trail damage and some off-trail erosion/sediment delivery to channels is likely to occur. Trail incision and complete loss of trail tread could occur, therefore resulting in loss of infrastructure possibly leading to significant repairs and costs to restore sections of trail. Loss of water control may lead to off-trail slope erosion and gully

formation. Once active gullies develop, they can continue to erode during each storm event and contribute to downstream sedimentation and trail instability. Trail location and associated burn severity will be assessed in detail when the BARC is available and an interim 2500-8 will likely be filed.

Risk Assessment: Threats to Forest Service trails and associated structures

Probability of Damage or Loss: Very Likely – High potential for erosion of surface tread and sediment delivery to streams. Soil deposition on trail surfaces from adjacent hillslopes may also occur.

Magnitude of Consequence: Major – loss of important recreational trails

Risk Level: Very High

Water quality: The streams in the burned area generally maintain good water quality. Erosion from steep burned hillslopes would compromise water quality through transport and deposition of fine sediment in important fishery streams. The elevated erosion and potential failures from roads and trails also compromise water quality. Treatments to improve road and trail drainage to withstand post-fire events will provide protection for water quality as well. No specific landscape treatments were proposed to reduce water quality effects, as the assessment results suggest burn severity was mostly moderate, and vegetation recovery is likely to be relatively rapid.

Risk Assessment: Threats to Forest Service trails and associated structures

Probability of Damage or Loss: Very Likely – High potential for erosion of surface tread and sediment delivery to streams. Soil deposition on trail surfaces from adjacent hillslopes may also occur.

Magnitude of Consequence: Major – loss of important recreational trails

Risk Level: Very High

Comment [UFS1]: Need to update

Native vegetation: Native vegetation communities are at risk from rapid expansion of noxious weeds from existing populations in the burned area. Recent weed inventories conducted within the Red River Ranger District have identified a number of Idaho noxious and invasive weeds occurring within the Red River and Elk City Complex Fires.

Fire intensities were generally Low to Moderate, with High intensity burns occurring in the vicinity of Granite Springs Campground and portions of the Montana Road. Most grasses and shrubs in or near infested sites should regenerate because roots and crowns remained intact. However, highly susceptible habitat, existing infestations and exposed mineral soils along roads, trails, fire lines and camps greatly increase the risk of invasive weed spread as a result of fire disturbance. The risk of weed spread has increased within the roaded portion of the Red River Complex Fire due to the roads acting as weed vectors into the susceptible burned areas.

Most of the previously identified weed infested sites within the fire were either burned or occur adjacent to burned areas. Primary risk comes from the existing infestations within and adjacent to burned area along with introduction of noxious weed seed from firefighting resources. Invasive species detection surveys and treatment within and adjacent to the burned area is warranted. Please see the Invasive Species specialist report for more details.

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

Heritage: A thorough review of recorded heritage sites was conducted during the BAER assessment. At the time of the initial request, no sites needing protective or stabilizing treatments had been found. Site locations will be compared with the BARC when it becomes available, and some additional review may be needed to determine if any sites are threatened, and would benefit, from BAER treatments.

B. Emergency Treatment Objectives:

- Protect road infrastructure and crossings from flood flows, debris torrents, and other potential erosion events and maintain access;
- Reduce the threat of significant expansion of existing noxious weeds or invasion of new noxious weeds.

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

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

Land (weed treatments) N/A Channel N/A Roads/Trails 70% Protection/Safety N/A

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%

E. Cost of No-Action (including Loss): >\$150,000

The potential cost of no action includes erosion damage on several public roads needed for FS and public access, and erosion damage and failure of trails. The cost of repairing roads and trails after they are damaged by significant storms would most likely exceed the cost of the selected alternative. The value of protecting the ecological integrity of the burned area from noxious weed infestation likely exceeds the cost of weed treatment and monitoring, although this too was not quantified. Please see page 10 for the attached Cost/Benefit assessment.

F. Cost of Selected Alternative (including Loss): \$60,378

In accordance with the revised Forest Service manual, the risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2012-1, was used to evaluate the Risk Level for each value identified during the Red River Complex fire BAER assessment. Only treatments that had a risk of Intermediate or above are recommended for BAER authorized treatments.

Treatments	Costs
Land Treatments (Native Vegetation)	Treatment costs = \$70.72/acre x 345 acres = \$24,398.00
	= \$24,398.00
Transportation Infrastructure	Road drainage improvements = \$31,396.00
Roads and Trails	Storm patrol (roads) = \$4,584.00
	= \$35,980.00

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Range	<input checked="" type="checkbox"/> Weeds
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> GIS	<input type="checkbox"/> Air Quality	<input type="checkbox"/> Research	<input checked="" type="checkbox"/> Fisheries
<input checked="" type="checkbox"/> Recreation			

Team Leader: Ed Snook
Email: esnook@fs.fed.us Phone: 406-363-7103 FAX: 406-363-7106

Forest BAER Coordinator: Cara Farr
Email: cfarr@fs.fed.us Phone 208-983-4045

Core Team Members:

Ed Snook - Team Lead	Heather Berg - Recreation
- Hydrology	Steve Armstrong - Heritage
- Hydrology	- Noxious Weeds
Derek Milner - Soils	Katie Howisey - Noxious Weeds (t)
Chandra Neils - Soils (t)	John Hutchison - GIS
Chris Wolfing - Engineering (t)	Allison Johnson - Fisheries

Comment [1152]: Need to update

H. Treatment Narrative:

Road and Trail Treatments:

Road treatments will be targeted at effectively draining anticipated increased runoff in the first several years following the fire.

1. Four damaged HDPE culverts will be replaced with new CMPs to prevent road washout and loss of access. Road surfaces over the pipes will be hardened to reduce potential washout at the crossings.
2. Post-storm road inspections will occur after substantial storms to detect and repair any crossing overflow damage that occurs, before subsequent storms make the damage worse.

Locations and extent of trail work have yet to be determined due to lack of a BARC image to determine high and moderate burn severity areas where trail work is needed most. An interim 2500-8 is planned pending confirmation of need by BARC acquisition and processing. 42 miles of trail are within the Red River Complex fire perimeter. Trail work, if needed, will stabilize segments of the trail system within the burned area that are at high risk of damage from elevated post-fire runoff and erosion. Treatments will consist of replacement of burned drainage structures, installation of new drainage structures in anticipation of greater runoff and erosion, cleaning of existing intact drainage structures, and spot outsloting to improve trail drainage especially on steep slopes and near streams.

Protection/Safety Treatments:

To provide for worker safety during implementation of trail drainage improvements, hazard trees along the trails mentioned above will be removed. Roads have generally been snagged as part of suppression efforts.

Land Treatments:

Noxious weed control with herbicides is recommended for new populations of current and new invader weed species within the Red River and Elk City Complex Fires. 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. Areas within the burn perimeter infested with noxious weeds

will be treated within one year of containment to reduce the spread into uninfested burned areas. If subsequent monitoring identifies weeds populations not effectively removed with initial treatment, additional treatment will be planned using alternative funds. Many of the weeds are difficult to find the first year after a fire, so the acres of known populations within the burn perimeter will be covered twice in 2016 to ensure that all weeds are located and treated effectively. Other funding sources will be sought in out-years to treat any expansions of noxious weeds identified in subsequent monitoring. All of this work will be accomplished using ground-based equipment. Treatment will include the following:

- Mix of backpack/truck spraying and hand-pulling, as appropriate, in spring/early summer 2016 before weeds begin to seed
- Using approved herbicides and application techniques based on weed species, topography and environmental factors, in compliance with Nez Perce-Clearwater NF Weeds EIS.
- Treatment of road segments within high and moderate burn severity on roads.
- Treatment of trail segments within high and moderate burn severity on system trails.

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.)

Trail and Road Monitoring: Monitoring of road and trail treatments will occur during and after implementation in 2015-16 to ensure that treatment objectives are met. Hillslope and road treatments will be monitored again after snowmelt and during the summer to evaluate effectiveness. Monitoring will be part of the weed assessment and road storm inspection treatments.

Noxious Weed Monitoring: Noxious weed monitoring will be part of the spray and assessment actions noted above. New populations will be mapped, tracked and treated through normal program functions, if BAER treatments and assessment do not eradicate them.

VI - Emergency Stabilization Treatments and Source of Funds

Comment (NF53): Updated to reflect request

Line Items	Units	Unit Cost	NFS Lands			Other Lands				All Total
			# of Units	BAER \$	Other \$	# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments										
Field treatment & assessment	acre	71	250	\$17,750						
Subtotal Land Treatments				\$17,750	\$0		\$0		\$0	\$0
B. Channel Treatments										
Subtotal Channel Treat				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
RT-1 Road Storm Inspection	each	101	3	\$4,554						
RT-1 Culvert Replacement	each	7,849	4	\$21,596						
	each	1	0	\$0						
Subtotal Road & Trails				\$26,150	\$0		\$0		\$0	\$0
D. Protection/Safety										
	mile	1,500	0	\$0						
	each	97	0	\$0						
Subtotal Structures				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
Assessment					\$7,149		\$0		\$0	\$0
Subtotal Evaluation					\$7,149		\$0		\$0	\$0
F. Monitoring										
				\$0			\$0		\$0	\$0
	day	0	0	\$0						
	day	0	0	\$0						
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
G. Totals										
Previously approved				\$63,730	\$7,149		\$0		\$0	\$0
Total for this request				\$63,730						

PART VII - APPROVALS

1. _____ /2015
Cheryl F. Probert, Nez Perce-Clearwater NF Forest Supervisor Date

2. _____ /2015
Leanne Marten, Region 1 Regional Forester Date

**Red River Complex 2015
Cost/Risk Assessment**

Part 1. Treatment Cost

Treatment	cost
1. Road Storm Inspection	\$ 4,584
2. Culvert Replacement	\$31,396
3. Weed Assessment and Treatment	\$24,495
TOTAL COST	\$60,475

Part 2. Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatment	%
1. Road Storm Inspection	85
2. Culvert Replacement	85
3. Weed Assessment and Treatment	70

Risk of Resource Value Loss or Damage

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

No Action- Treatments Not Implemented (check one)

Resource Value	None	Low	Mid	High
Human health and safety		X		
Plant communities at-risk from weed infestation				X
Native Plant community structure, function and composition				X
Aquatic community structure, function and composition		X		
Watershed integrity	X			
Heritage resources		X		
Threatened and Endangered Species (terrestrial)	X			
Threatened and Endangered Species (fish)		X		

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	None	Low	Mid	High
Human health and safety		X		
Plant communities at-risk from weed infestation			X	
Plant community structure, function and composition			X	
Aquatic community structure, function and composition		X		
Watershed integrity	X			
Heritage resources	X			
Threatened and Endangered Species (terrestrial)	X			
Threatened and Endangered Species (fish)		X		

Part 3. SUMMARY

1. Are the risks to natural resources and private property acceptable as a result of the fire if the following actions are taken?

Proposed Action Yes No Rationale for answer:

The engineering/road drainage treatments (armored dips, crossing stabilization, storm patrol, etc.) proposed are effective in stabilizing roads to pass flood events while maintaining access and reducing risks to water quality. The engineering treatments will be effective for stabilizing crossings in order to pass increased water and debris flows.

Major weed invasions can be avoided through early detection, treatment, and monitoring. Several species that exist in the Salmon River Valley (Rush Skeletonweed, Dalmation Toadflax) are not present within the Noble Fire/Red River Complex burned area and have the potential to disrupt and replace currently intact native plant communities. Road and trail systems within the burn area are potential corridors of invasion, and can be effectively monitored and treated.

No Action Yes No Rationale for answer:

There is a high probability of culvert and road prism damage in these areas if no action is taken, creating a need for expensive repairs including hauling of fill from off-site to replace that lost at creek crossings and heavily eroded road segments within burned areas.

Native plant communities would be subject to non-native invasive plant expansion into the burned area while native plants are recovering from the fire.

The areas selected for treatment have a high risk of negative impacts to road infrastructure, water quality and vegetation resources.

Alternative(s) Yes No Rationale for answer:

N/A

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes No Rationale for answer:

The engineering treatments will be effective for stabilizing crossings in order to pass increased water and debris flows, and to protect road segments threatened by post-fire hydrology.

Data obtained in the monitoring programs proposed will detect weed invasion, and road crossing problems.

Monitoring will identify where additional watershed rehabilitation work is required.

The beneficial results of treatment implementation are worth the monetary costs of installation.

No Action Yes No Rationale for answer:

Although the monetary cost of no action is low, weed invasion will produce ecological costs. Risk of new noxious/invasive weed species establishing themselves in the burned area, and invasion of currently weed-free areas is high. Critical areas and infrastructure were identified for treatment through the assessment of burn severity and Ranger District input.

Alternative(s) Yes No Rationale for answer:

N/A

3. Which approach will most cost-effectively and successfully attain the EFR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action , Alternative(s) , or No Action

Comments:

