Forest Service

Okanogan-Wenatchee National Forest

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File Code: 2520 **Date:** October 27, 2017
Route To:

Subject: Burned Area Emergency Response for Jolly Mountain Fire

To: Regional Forester

This is an initial request for funding of treatments identified in the enclosed Burned Area Emergency Response (BAER) Report (FS 2500-8) for the Jolly Mountain Fire. It contains our request for $125,720 in WFSU-SULT funds. This incident occurred in the southern portion of the Okanogan-Wenatchee National Forest, within Cle Elum Ranger District in Kittitas County, Washington. The Jolly Mountain Fire burned area includes about 36,817 acres of National Forest System lands.

Resource specialists developed specific recommendations that will not result in detrimental effects to the human environment. Reports of existing conditions, maps, photos, and various other items related to the BAER assessment are final or near final are being filed at: O:\NFS\OkanoganWenatchee\Project\ForestWide\2520BAER\OkaWenFireComplexes2017\JOLLY.

BAER consists of emergency actions needed to prevent loss of lives and property or to mitigate unacceptable resource degradation. I have reviewed the Report and determined that actions are consistent with current national BAER direction Interim Directive No. (FSM id_2520-2017-1) and will not have significant impacts.

Two appendixes are attached to the FS 2500-8; Appendix A is the soil burn severity maps and Appendix B are the treatment map.

If you have questions regarding this request, please contact Okanogan Wenatchee BAER Team Leader Molly Hanson at (509) 664-9330 or Teresa Tucker, Resources/Planning Staff Officer at (509) 679-4281.

for MICHAEL R. WILLIAMS
Forest Supervisor

cc: Cara Farr, Molly Hanson, Teresa Tucker, Michelle Capp

Date of Report: 10/27/2017

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: Jolly Mountain

B. Fire Number: WA-OWF-000361

C. State: WA

D. County: Kittitas

E. Region: PNW (06)

F. Forest: Okanogan-Wenatchee

G. District: Cle Elum

H. Fire Incident Job Code: P6K9JA

I. Date Fire Started: August 11, 2017

J. Date Fire Contained:10/15/2017 (inciweb)

K. Suppression Cost: $ 24,900,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. **Fireline waterbarred (miles)**: Repair needed on 147 miles (in progress)
2. **Fireline seeded (miles)**: Seeding needed on 147 miles (in progress)
3. **Other (identify)**: Unknown Status on 156 miles

M. Watershed Number:

Watershed (HUC10)	Watershed Name	Subwatershed (HUC12)	Subwatershed Name
1703000101	Cle Elum River	170300010104	Upper Cle Elum River
		170300010105	Middle Cle Elum River
1703000102	Middle Fork Teanaway River-Teanaway River	170300010201	Upper North Fork Teanaway River
		170300010202	Middle Fork Teanaway River
		170300010203	West Fork Teanaway River
		170300010204	Lower North Fork Teanaway River

N. Total Acres Burned: 36,817
[25,857] NFS Acres [0] Other Federal [1,498] State [9,462] Private

O. Vegetation Types:

The Jolly Mountain fire is dominated by a combination of whitebark pine/subalpine fir/big huckleberry at the higher elevations. The middle to low elevations transition from into Douglas fir/subalpine fir/grand fir to hemlock/Douglas fir. On the south slopes and lower elevations from 2000-4000 feet, ponderosa pine/Douglas fir/grand fir. Riparian areas are dominated by grand fir/bitter cherry/big leaf maple and beaked hazelnut.

P. Dominant Soils:

Soils are somewhat variable and range from moderately coarse textured to ashy soils with large amounts of internal surface rocks throughout their profile. Surface textures are generally sandy loams, fine sandy loams or loamy sand which are highly erodible.

Q. Geologic Types:

The majority of the Jolly Mountain fire, in the central to southern portions, is underlain by continental sedimentary rock, and basalt rocks – interbedded (typically interbedded with the continental sedimentary rocks.) The northwestern edge of the Jolly Mountain fire is underlain by foliated crystalline and massive crystalline rocks. In the southwestern corner of the fire, the geology consist of tertiary volcanic rocks. Bedrock is comprised of volcanic rocks, primarily of middle to late tertiary age.

There are about 1,600 acres of undifferentiated geology mapped throughout the fire, predominately in the southeastern portion. This geology group consists primarily of surficial deposits such as glacial till, alluvium, landslide deposits, and glacial outwash.

R. **Miles of Stream Channels by Order or Class:** 73 perennial, 89 intermittent, 168 ephemeral (Total 330)

S. **Transportation System**

Trails: 45 **miles** **Roads:** 173 **miles**

PART III - WATERSHED CONDITION

A. **Burn Severity (acres) FS lands:** 12,711 **(unburned/very low)** 9,129 **(low)** 3,794 **(moderate)** 224 **(high)**

B. **Water-Repellent Soil (acres):** 4,018 (16%) NFS lands; 6,505 (18%) of all lands

C. **Soil Erosion Hazard Rating (acres):** 474 **(low)** 755 **(moderate)** 31,397 **(high)**

D. **Erosion Potential:** Pre Fire: 1 tons/acre Post Fire: 9 tons/acre

E. **Sediment Potential:** 544 **cubic yards / square mile**

PART IV - HYDROLOGIC DESIGN FACTORS

A. **Estimated Vegetative Recovery Period, (years):**	5
B. **Design Chance of Success, (percent):**	80
C. **Equivalent Design Recurrence Interval, (years):**	25
D. **Design Storm Duration, (hours):**	24
E. **Design Storm Magnitude, (inches):**	4.8
F. **Design Flow, (cubic feet / second/ square mile):**	95
G. **Estimated Reduction in Infiltration, (percent):**	18
H. **Adjusted Design Flow, (cfs per square mile):**	220

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative):

The Jolly Mountain fire burned 36,817 acres with a total of 25,857 on NFS lands and 9,462 of Department of Natural Resources Community Forest lands. This fire burned through a complex ownership and management landscape. In 2013, lawmakers designated the Teanaway Community Forest as the first community forest in Washington and is managed by the Department of Natural Resources (DNR). The Okanogan Wenatchee NF, the DNR and multiple other agengies and non-profits cooperatively manage the Teanaway watershed. The DNR provided Hazard Geology specialists to participate on the BAER assessment team and provided integral support focusing on public safety on all the Washington fires this summer. **The table of values at risk reflects Community Forest recreation sites and trails that are within the fire perimeter or are immediately downstream. The utility of including these DNR sites was primarily for an accounting process to identify of property in the draiange and it is not intended as an assumption of responsibility or authority over management actions on DNR lands, nor is it a request for money to be spent off of Forest system lands.**

Approximately 84% of the fire burned at unburned or at low, 15% is moderate and 1% high burn severity. The largest of acerage of burn severity at or below the Forest boundary in the Middle Fork of the Teanaway.

A BAER team began assessing the area for post-fire emergencies on September 28, 2017 and did extensive field investigation to evaluate burn conditions. In that time the team has identified the following values at risk to post-fire threats.

Human Life & Safety

Threats to life and safety and property may exist in and below the areas of high and moderate burn severity above Cle Elum Lake, and the West and Middle Forks of the Teanaway posing an increased probability of flooding, thus increasing the risk of travel across drainages on roads and trails, and at dispersed and developed recreations sites durning storm runoff conditions.

Morgan Creek and Hex Creek drain through mixed ownership into Cle Elum Lake and is expected to have increased probability of postfire flow increase(~230% and ~220% accordingly) The burned watershed upstream from the County Highway 903 and FS dispersed camping is obstructed from view by the steep terrain and visitors to the fan area would not be aware of the increased flood hazard down at the FS managed lake shore.
Agencies with delegated authority for flood forecasting may require additional weather monitoring sites to provide for public safey below burned areas on Forest. Installation of these emergency ALERT stations on NFS lands may require FS administrative support to permit the installation of these necessary precipitation gages on NFS lands through Special Use Permit (SUP).

Threats to public health from flooding, ash delivery, and sedimentation of water source and delivery systems may exist at Recreation Residences (SUP holders) leading to potential water supply contamination from loss of water quality. Notification of changed conditions to the SUP holders

Threats to Property

The threat to property from post-fire conditions may exist. Threats to County Road 903 at crossing, of Morgan, Bell, and Dry Creeks and FS dispersed recreation sites located at the outflow of Morgan Creek are at an increased probablility for flooding and debris damage.

The segments of Forest Service roads within the burned area are at a high risk from damage from increased runoff and erosion on ~4 miles of road.

Forest Service Trails within the burned area are at risk from increased surface water runoff, erosion, sedimentation, and/or debris. Impacts include damage to the trail bed and/or loss of access due to severe erosion of the trail surface, or deposition of sediment or debris. Increased risk for temporary loss of access/egress exists on trails within the burned area.

Threats to Natural Resources

The risk to natural resoucres such as soil productivity and hydrologic function is intermediate due to the large acreage of low severity and unburned conditions. The potential for elevated erosion rates is low in Way Creek. In areas of moderate and high burn severity, increased risk of erosion is very high Hex, Morgan, Unnamed trib in West Fork and high in Little Salmon Le Sac Creek.

Impaired soil productivity and loss of seed bank may impact plant species locally and result in a loss of species viability. Establishment and expansion of the invasive plant species into the burned area are at risk to become new infestations.

There may be an increased probability of soil erosion and sediment delivery rates to increase in areas within in moderate and high soil burn severity. This loss of water control on road and trails, and hillslope erosion and sediment delivery may impact citical habitat and populations of Steelhead and Bull trout within close proximity to the burn area.

EMERGENCY DETERMINATION

The BAER team began assessing the area for post-fire emergencies on September 29, 2017. In that time the team has identified the following values at risk to post-fire threats. Interim reports may be submitted as additional assessments are completed. The risk matrix below, Exhibit 2 of Interim Directive No.: **2520-2017-1** was used to evaluate the Risk Level for each value identified during the assessment. Only values at risk that had a risk of Intermediate or above are discussed.

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	RISK		
Very Likely	**Very High**	**Very High**	**Low**
Likely	**Very High**	**High**	**Low**
Possible	**High**	**Intermediate**	**Low**
Unlikely	**Intermediate**	**Low**	**Very Low**

The table below describes the values at risk, probablility of damage or loss, magnitude of consequences, risk, rationale for emergency treatment or actions and proposed treatments. Emergency Treatments activities (*public health and safety, land, channel, road and trail treatments, protection and safety or public engagement actions).

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Human Life and Safety Public Health	Increased flows, ash, sediment and debris from burn slopes upslope of recreation residences may cause damage to the drinking water source/delivery system and pose risk to water quality contamination.	Very Likely Moderate Very High	To inform recreation residence owners of changed conditions related to the fire.	Notification of changed conditions to special use permit holders who may be affected by burned areas in proximity to their permit.
Human Life and Safety Middle Fork CG (DNR) and Middle Fork Trail #1393	Changed conditions may increase the probability of higher flows and risk to employees and visitors from flooding below high and moderate burn severity areas of the Middle Fork Teanaway	Likely Major Very High	To avoid impacts to human health and safety from being caught in flood waters and debris.	Public information/outreach Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Human Life and Safety Middle Fork Trail #1393 (DNR), West Fork Teanaway #1353	Changed conditions may increase the probability of higher flows and risk risk to employees and visitors from hazard trees and flooding below high and moderate burn severity areas of the Middle Fork Teanaway	Possible Major High	To avoid impacts to human health and safety from being injured by hazard trees or caught in flood waters and debris.	Public information/outreach Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions
Human Life and Safety Road Access	Changed conditions may increase the probability of higher flows and risk to employees and visitors from flooding from areas of high and moderate burn severity above Hwy 903, and county roads in the Middle and North Fork Teanaway	Possible Major High	To avoid impacts to human health and safety from being caught in flood waters and debris.	Public information/outreach Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Human Life and Safety Dispersed Recreation Access	Risk to employees and visitors from flooding at dispersed site users accessing and using Cle Elum Lake beach access below Dry Creek and the unnamed tributary between Morgan Creek and Dry Creek	Possible Major High	To avoid impacts to human health and safety from being caught in flood waters and debris.	Administrative closure of dispersed recreation sites on Cle Elum Lake below Morgan and Dry Creeks. Install signage and barriers to restrict access to unsafe areas below high and moderately burned drainages to increase public safety.
Human Life and Safety Dispersed Recreation Access	Risk to employees and visitors from flooding at dispersed sites in the North Fork Teanaway River.	Unlikely Major Intermediate	To avoid impacts to human health and safety from being caught in flood waters and debris.	Public information/outreach Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions
Human Life and Safety Developed Recreation Access	Risk to employees and visitors from flooding at developed sites in or below low burn severity areas including Beverly, Cle Elum River, Red Mountain, Salmon Le Sac-Cayuse, Wishpoosh CG	Unlikely Major Intermediate	To increase awareness of increased post-fire flood risk. To avoid impacts to human health and safety from being caught in flood waters and debris.	Public information/outreach Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Human Life and Safety Private and DNR lands downstream	Changed conditions may increase the probability of higher flows and risk to private property from flooding in the Morgan, Dry, Bell, Newport Creeks area, TNC, DNR, Wagonwheel, Dingbat, private below Lick Creek, West Fork and Middle Teanaway	Possible Major High	To increase awareness of increased post-fire flood risk and to avoid impacts to human health and safety from being caught in flood waters and debris.	Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions
Human Life and Safety DNR Developed Recreation Sites	Changed conditions may increase the probability of higher flows and risk to employees and visitors from flooding at developed recreation sites downstream of areas of high and moderate burn severity at Indian and Teanaway Campgrounds	Possible Major High	To increase awareness of increased post-fire flood risk and to avoid impacts to human health and safety from being caught in flood waters and debris (the largest areas of high and moderate burn severity were down slope from FS boundary on DNR and private lands).	Interagency coordination with appropriate agency with jurisdiction to inform of changed conditions

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Human Life and Safety SUP Access	Risk to flooding at one recreation residence that sits low in the floodplain	Unlikely Major Intermediate	To increase awareness of increased post-fire flood risk. To avoid impacts to human health and safety from being caught in flood waters and debris. Only 4% of the watershed burned upstream of cabin, therefore very low risk.	Notification of changed conditions to special use permit holders who may be affected by burned areas in proximity to their permit.
Human Life and Safety Trail Access	Risk to hikers along trails along portions of trail #1383, #1307 from burned area hazards and increased flood risk.	Unlikely Major Intermediate	To increase awareness of increased post-fire flood risk. To reduce risk to hikers from burned area hazards (stump holes, hazard trees, and rock fall hazards) in areas within and below moderate and high burn severity.	Signage and public outreach and coordination to communicate post-fire risks
Human Life and Safety Trail Access	Risk to hikers along trails along portions of trails in high and moderate SBS: FS Trail # 1340, 1340.1, 1225, 1383.1,1393, 1325,1349, 1235, 1222	Possible Major High	To increase awareness of increased post-fire flood risk. To reduce risk to hikers from burned area hazards (stump holes, hazard trees, and rock fall hazards) in areas within and below moderate and high burn severity.	Administrative closure of Hex Mountain Trail. Signage and public outreach and coordination to communicate post-fire risks

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Property Road Infrastructure	Damage to FS roads 4315124, 4300230, 4305113, 9701203, 4305215, from loss of water control on roads	Major Moderate Very High	To mitigate imminent hazards to the roads system vary from minor sloughing and culvert blockage to partial or total loss of road template.	Drainage improvement treatments to increase stability of road infrastructure will reduce risks of damage on ~4 miles of road.
Property Trail Infrastructure	Damage to FS trails #1353, 1340 from loss of water control on trails	Very Likely Moderate High	Trail segments with high erosional hazard were susceptible to accelerated erosion pre-fire, therefore trails within high and moderate burn severity, are prone to increased post-fire runoff, concentration of flow, and erosion of the trail surface.	Drainage structures will be installed along ~7.5 miles of trail to control runoff and avoid, minimize and mitigate damage to the trail bed and downslope hillslopes

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Natural Resources Soil Productivity	Approximately 20% of the fire area is burned at high and moderate soil burn severity posing a moderate threat to soil productivity. The extent and degree of changes is unknown. Loss of productivity due to erosion is considered to be long-term but recovery of hill-slope stability is likely to occur within 3-5 years following the fire.	Possible Moderate Intermediate	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to soil productivity	Road and trail drainage treatments are proposed to control the increase in runoff and avoid erosion of road and trail bed and sedimentation into streams. Natural recovery of effective groundcover is the most cost-effective approach to emergency stabilization.

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Natural Resources Hydrologic Function	Risk of impacts to hydrologic function from increased runoff and erosion. The West Fork and lower Middle Fork of the Teanaway, and tributaries off Cle Elum Lake is burned at high and moderate soil burn severity posing a moderate threat to hydrologic function with lasting impacts to hydrologic response,	Very Likely Moderate Very High	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to hydrologic function.	Road and trail drainage treatments are proposed to control the increase in runoff and avoid erosion of road and trail bed and sedimentation into streams. Natural recovery of effective groundcover is the most cost-effective approach to emergency stabilization.
Natural Resources Riparian Function	West Fork and lower Middle Fork Teanaway and Cle Elum Lake Increased post-fire flows expected. Channel widening or incision may occur resulting in moderate threat to degradation to riparian areas from increased flows, channel erosion and loss of riparian vegetation.	Unlikely Minor Low	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to riparian function.	Road and trail drainage treatments are proposed to control the increase in runoff and avoid erosion of road and trail bed and sedimentation into streams Natural recovery of effective groundcover is the most cost-effective approach to emergency stabilization.

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Natural Resources TES	West Fork and lower Middle Fork Teanaway and Cle Elum Lake Risk to Bull Trout and Steelhead populations from the threat of increased post-fire flows, erosion and sedimentation of critical habitat	Very Likely Moderate Very High	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to riparian function and aquatic habitat.	Natural recovery of effective groundcover is the most cost-effective approach to emergency stabilization, fire disturbance is within historical range of variability
Natural Resources TES	Jungle Creek and North Fork Teanaway Risk to Bull Trout and Steelhead populations from the threat of increased post-fire flows, erosion and sedimentation of critical habitat.	Possible Minor Low	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to riparian function and aquatic habitat.	Natural recovery of effective groundcover is the most cost-effective approach to emergency stabilization, fire disturbance is within historical range of variability

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Natural Resources TES MIS, R6 Sensitive Species Habitat	Risk to Region 6 Sensitive Species West slope cutthroat trout and Redband	Very Likely Moderate Very High	Hillslope treatments are limited due to timing and topographic limitations, therefore treatments to control water on road and trail infrastructure in areas of high and moderate soil burn severity will help to avoid further degradation to riparian function and aquatic habitat.	Natural recovery of watershed conditions, fire disturbance is within historical range of variability
Natural Resources Native or naturalized plant communities.	Risk to forested native or naturalized vegetative communities due to significant tree mortality, where natural regeneration is delayed to the loss of the canopy	Likely Moderate High	There are populations of 8 invasive species (Class B noxious weed) along the travel routes in the burn area. Nearby infestations of invasive plant species are likely to move into the burned area, due to the wind-blown dispersal nature of the seed and the inability of the existing native seed bank to offer natural competition.	Early Detection Rapid Response treatments for invasive species
Natural Resources Native or naturalized plant communities.	Risk to Whitebark pine recovery Federal Candidate and Sensitive	Likely Minor Very Low	Whitebark pine burned within this fire perimeter. The natural seed production of the pine and burn intervals may or may not line up to provide seed production post fire.	Natural recovery of watershed and vegetative conditions, some restoration planting may occur through restoration effort.

Critical Value at Risk	Description of Threat	Probability Magnitude Risk	Rationale for Emergency Management Actions	Risk Reduction Treatments/ Management Actions
Natural Resources TES Wildlife	Threats to Northern Spotted Owl, Teanaway wolf pack and wide ranging carnivore critical habitat from vegetation loss, degraded soil productivity and hydrologic and riparian function.	Likely Minor Very Low	Natural recovery of watershed and vegetative conditions, some restoration planting may occur through restoration effort.	Natural recovery of watershed and vegetative conditions, some restoration planting may occur through restoration efforts

B. Emergency Treatment Objectives (narrative):

Mitigate effects of changed post-fire watershed response on human life and safety, particularly where FS recreation facilities are at risk of damage and where floods and debris-laden flows present a hazard to Forest Service visitors at dispersed, developed recreations sites, trails and roads within and adjacent to burned area.

Coordinate with partner agencies to mitigate the risk to human life and safety on roads and trails on State, County, and private and permited lands/uses.

Mitigate the potential for loss or damage of road and trail infrastructure within the burn area.

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

Land 80% Channel N/A% Roads/Trails 80% Protection/Safety 85%

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	80	70
Channel	N/A	N/A	N/A
Roads/Trails	80	80	70
Protection/Safety	80	80	70

E. Cost of No-Action (Including Loss): $521,600

F. Cost of Selected Alternative (Including Loss): $451,100

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Molly Hanson/Gregory A. Kuyumjian

Email: mahanson@fs.fed.us gakuyumjian@fs.fed.us **Phone:** (509) 664-9330 **FAX:** (509) 664-9286

Core Team Members:

Rory Steinke (Soils)	Ken Bigelow (Engineering)	Helen Lau (Botany)
Dave Moore (Soils)	Lori McAlister (Engineering)	AngelaMcPhee (Recreation)
Tim Downing(Soils)	Matt Karrer (Geology)	Julia Gower (GIS)
Kristen Meier (Soils Trainee)	Stephen Slaughter (DNR Geology)	Carly Reed (PIO)
Kerri Lange (Soils Trainee)	Trevor Contreras (DNR Geology)	DanO'Conner (Web PIO)
Kit MacDonald (Soils)	Katherine Rowden (NWS Hydrology)	
Eric Merten (Aquatics Trainee)	Tom Matthews (Hydrology Trainee)	

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: Early Detection and rapid response to control new or expanding invasive weed infestations within the fire perimeter with spring and fall treatments on 150 acres. Identified treatment acres are based upon known known invasive plant infestations in moderate to high burn severity.

Implementation Support (Note: for all treatments) Includes SO Coordinator and cost tracking support as well as needed day-to-day coordination and support from the Cle Elum Ranger District.

Channel Treatments: N/A

Roads and Trail Treatments: Increase trail drainage structures on trails within burned area subject to increased runoff from adjacent and up gradient burned areas to prevent trail failure or increased erosion.

Storm Patrol Response: maintain transportation system integrity and protect public safety using stagedand/or contracted equipment to maintain functional drainage on roads during storm events.

Armored Rolling dips: Minimize damage to the road surface and template by hardening road surface and diverting water off the road at intermittent channels and strategic locations in order to minimize fill-slope deterioration.

Rip Rap Armor/Energy Dissipater: Protects upstream fill slopes and dissipates energy to minimize erosion and help prevent head cut on fill slopes.

Restore drainage: Protecting the investment in principle and secondary routes. Maintain important and/or critical administrative and public access.

Protection/Safety Treatments: Jersey Barriers for closure of Morgan and Dry Creek Dispersed use areas (cost listed within roads and trails section).

Notification to North Fork Recreational Residences regarding increased runoff and sedimentation to their water supply spring boxes.

ALERT (Automated Local Evaluation in Real Time) Support (contingent on a request from a partner agency or entity): This line item is specific to supporting any necessary review and emergency permit processing for an entity to install a specific type of precipitation station capable of relaying data to National Weather Service and others to support forecasting related to local rainfall events.

Gate Installation near the Hex Mountain Trailhead to maintain public safety by restricting temporary access until conditions are improved (cost listed within roads and trails sexction)

Open House with cooperating and other local agencies and entities to share finding and path forward related to Forest Service BAER assessment and treatments along with other agency responsibilities such as; National Weather Service (NWS), National Resources Conservation Service (NRCS), County Emergency Services, Collaborative Partners, as well as others)

Outreach/PIO support for public coordination and dissemination of BAER information and fielding public and partner requests and to include website support. Provide for coordination with agencies with jurisdictional responsibilities related to post-fire changed conditions.

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 treatment installation effectiveness. Evaluate and document road an trail drainage installations after rain events and prior to fall storms (total of three discreet evaluations plus reports (16 days).

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										
EDRR (spring and fall)	acres	130	150	$19,500	$0		$0		$0	$19,500
Implementation Suppo	Job	3000	1	$3,000	$0		$0		$0	$3,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$22,500	$0		$0		$0	$22,500
B. Channel Treatments										
N/A				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Concrete Barriers	LF	110	60	$6,600	$0		$0		$0	$6,600
Install Gate	EA	4400	1	$4,400	$0		$0		$0	$4,400
Storm Patrols	MI	3300	2	$6,600	$0		$0		$0	$6,600
Armored Rolling Dips	EA	2500	23	$57,500	$0		$0		$0	$57,500
Restore Drainage	MI	3000	2	$6,000	$0		$0		$0	$6,000
Riprap Dissipaters	EA	80	30	$2,400	$0		$0		$0	$2,400
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$83,500	$0		$0		$0	$83,500
D. Protection/Safety										
Public Oureach/PIO	days	350	10	$3,500	$0		$0		$0	$3,500
Notification Letters	EA	150	20	$3,000	$0		$0		$0	$3,000
ALERT Support	EA	2500	2	$5,000	$0		$0		$0	$5,000
Open House	Event	1500	1	$1,500	$0		$0		$0	$1,500
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$13,000	$0		$0		$0	$13,000
E. BAER Evaluation										
Assessment Team	Report	64000		---		1	$64,000		$0	$64,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$0		$64,000		$0	$64,000
F. Monitoring										
Road/trail effectivenes	days	420	16	$6,720	$0		$0		$0	$6,720
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$6,720	$0		$0		$0	$6,720
G. Totals				$125,720	$0		$64,000		$0	$189,720
Previously approved										
Total for this request				$125,720						

PART VII - APPROVALS

1. for _____ 10/27/2017
Forest Supervisor (signature) Date

2. _____ 11/2/2017
Regional Forester (signature) Date