ris USDA-FOREST SERVICE
(6/06)

FS-2500-8

Date of Report: September 20, 2018

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

[ ] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[X] 2. Interim Report # 1
[X] 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: Snow Shoe

B. Fire Number: OR-UPF-000198

C. State: OR

D. County: Jackson

E. Region: Pacifc Northwest (R6)

F. Forest: Umpqua

G. District: Tiller Ranger District

H. Fire Incident Job Code: P6L0ZN18 (0615)

I. Date Fire Started: 7/15/2018

J. Date Fire Contained: 8/16/2018

K. Suppression Cost: $6,085,258

L. Fire Suppression Damages Repaired with Suppression Funds: Fire suppression repair is on-going within the Snow Shoe fire area. The Snow Shoe fire has repaired approximately 9.9 miles of dozer fire line within the fire area.

M. Watershed Number:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
171003070602	West Fork Trail Creek	14,301	3,788	26

N. Total Acres Burned:

Fire Name	Umpqua NF Acres	BLM and Corps of Engineers Acres	Private	Total Acres
Snow Shoe	2,039	526	1,288	3,854

O. Vegetation Types:
Conifer forest within the burn is comprised of Douglas-fir (Pseudotsuga menziesii), ponderosa pine (Pinus ponderosa), white fir (Abies concolor), incense-cedar (Calocedrus decurrens), Shasta red fir (Abies magnifica), and western hemlock (Tsuga heterophylla). Associated species include huckleberry (Vaccinium membranaceum) creeping snowberry (Symphoricarpos mollis), sword fern (Polystichum imbricans), bracken fern (Pteridium aquilinum), and snowbush (Ceanothus velutinus).

Hardwoods including vine maple (Acer circinatum), Rocky Mountain maple (Acer glabrum), red alder (Alnus rubra), Brewer oak (Quercus garryana var. breweri), and mountain ash (Sorbus sitchensis) are found as components of some conifer stands within the burn area. Associated species include thimbleberry (Rubus parviflorus), rhododendron (Rhododendron macrophyllum), (Ceanothus velutinus), and bracken fern (Pteridium aquilinum).

The Shrub component varies within the burn area and is mostly composed of mixed montane chaparral species including greenleaf manzanita (Arctostaphylos patula), Ribes spp., Oregon grape (Berberis nervosa), ocean spray (Holodiscus discolor), serviceberry (Amelenchier alnifolia), snowbrush Ceanothus (Ceanothus velutinus).

P. Dominant Soils:
Soils within the western Cascades section have, for the most part, mixed mineralogy's. These soils generally have moderate depths, and contain a wide range of rock fragment percentages. In general, loam, loamy sand and gravelly loam textures are dominant across the fires. Soil maps are available in Appendix 2 of this assessment. A full breakdown of soils for the three fires as well as both forests are provided in the project record for this assessment.

Q. Geologic Types:
The Miles, Columbus, and Snow Shoe Fires lie on the Western Cascades Province and to a lesser extent on the High Cascades Province. These mountains are comprised of volcanic sediments and flows associated with the initial buildup of the Cascades during the Tertiary Period. The Miles and Columbus Fires are predominantly made up of coarse and fine grained sediments, as well as tuffs, of the Little Butte Volcanics and the Late Western Cascades Volcanic groups. An inclusion of basaltic andesite from the Early Cascades Volcanics group lies on the eastern edge of these fires. The Snow Shoe Fire is predominantly made up of coarse grained sediments (Colestin Formation) of the Early Western Cascades group.

R. Miles of Stream Channels by Order or Class:

	Stream Class (miles)		
Fire	Perennial, fish	Perennial, non-fish	Intermittent/Ephemeral
Snow Shoe	0.5	2.3	13.4

S. Transportation System

Trails: 0.7 miles
Roads: 11.7 miles

Umpqua	Miles of Road
DE - DECOMMISSIONED	1.4
1 - BASIC CUSTODIAL CARE (CLOSED)	1.4
EX - EXISTING	10.3
1 - BASIC CUSTODIAL CARE (CLOSED)	0.2
2 - HIGH CLEARANCE VEHICLES	10.1

3 - SUITABLE FOR PASSENGER CARS	0.1
4 - MODERATE DEGREE OF USER COMFORT	
Grand Total	11.7

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

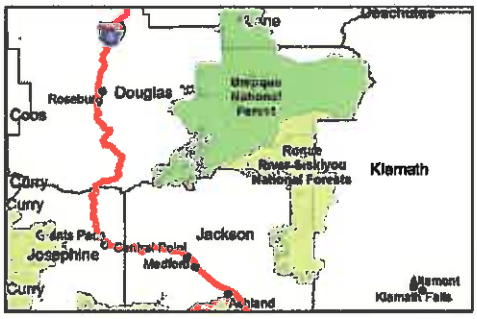
	Unburned	Low	Moderate	High	Grand Total
Snow Shoe	561	2,611	646	3	3,821
%	15%	68%	17%	<1%	100%

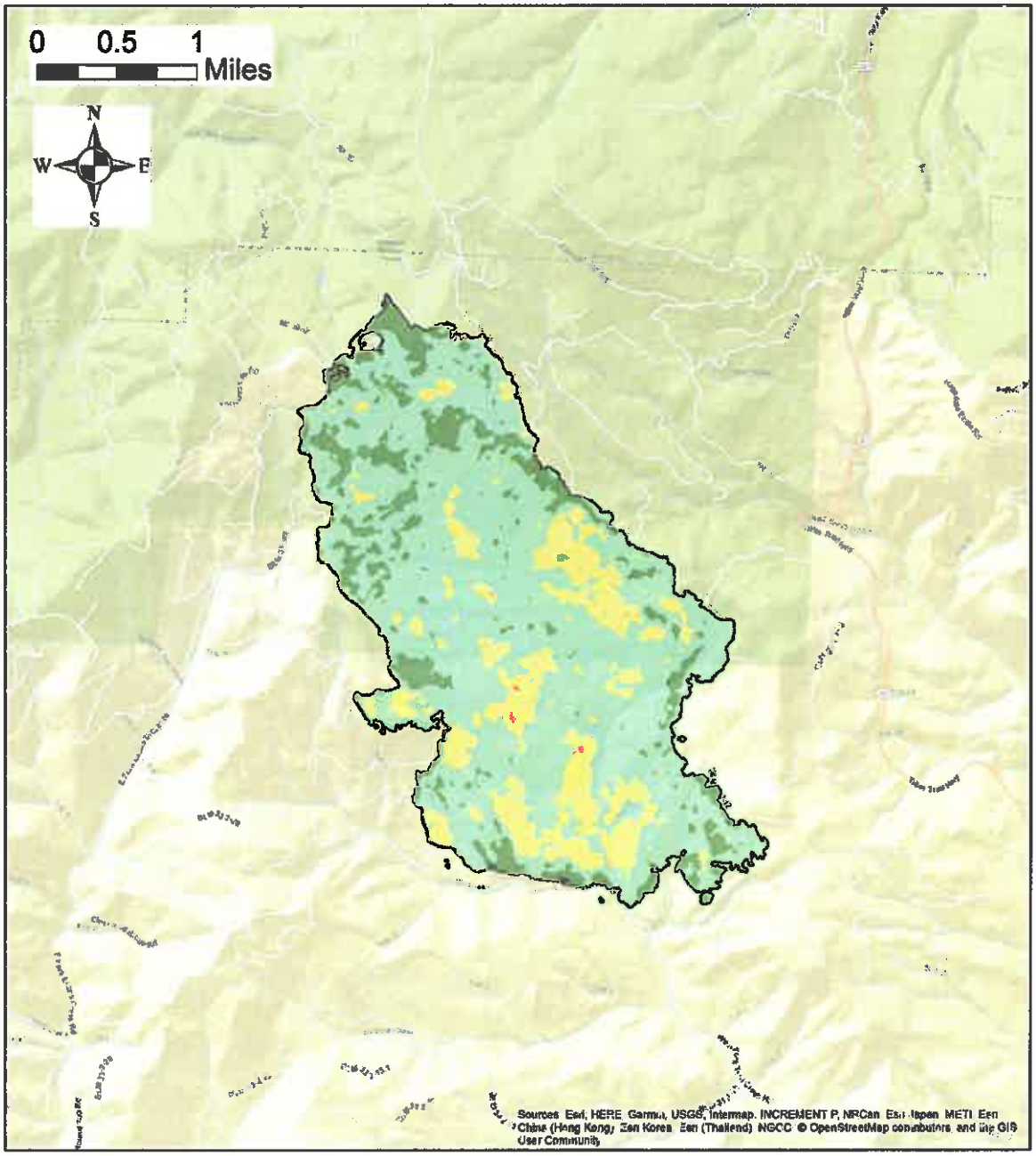
South Umpqua Complex - Snowshoe
Final Soil Burn Severity - September 14, 2018

Soil Burn Severity

- High
- Moderate
- Low
- Unburned

Severity	Acres
High	3
Moderate	646
Low	2,611
Unburned	561





B. Water-Repellent Soil (acres): 14,740 acres (entire South Umpqua Complex, including Snow Shoe, Mile, and Columbus Fires)

C. Soil Erosion Hazard Rating (acres): 3,601 (low) 220 (moderate) 0 (high)

D. Erosion Potential: 7.4 tons/acre

E. Sediment Potential: 1, 984 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period	2 to 5 years
B. Design Chance of Success	90 %
C. Equivalent Design Recurrence Interval	5 years
D. Design Storm Duration	24 hours
E. Design Storm Magnitude	3.7 inches
F. Design Flow	73 cfs / mi^2
G. Estimated Reduction in Infiltration	49%
H. Adjusted Design Flow	97 cfs / mi^2

PART V - SUMMARY OF ANALYSIS

Initial request is for hazard signs only. The full BAER assessment will be completed as a part of a combined effort with the Miles and Columbus Fires. This assessment is pending and will not delay implementation of BAER treatments needed to mitigate unacceptable risks. All additional evaluated values at risk and treatment requests are associated with this Interim # 1 request.

A. Describe Critical Values/Resources and Threats:

Category	Life/ Property/ Resources	Critical Value	Threat to Value	Probability of Damage or Loss	Magnitude of Consequence	Risk	Treatment Recommendations	Notes
Natural Resources	Native Plant Communities not currently affected by noxious weeds	Along dozer and hand lines, and locations of ground disturbance including drop points, helispots, staging areas.	Fire-caused disturbances create perfect conditions for noxious weed invasion and expansion. If emergency mitigation activities are not implemented this problem will expand exponentially and will require future extensive resources to manage.	Very Likely	Major	Very High	Early Detection/Rapid Response	Survey and treatment of noxious weeds are proposed separately for suppression related impacts to mitigate risks of introduction and spread of noxious weeds into native plant communities from firelines

Category	Life/ Property/ Resources	Critical Value	Threat to Value	Probability of Damage or Loss	Magnitude of Consequence	Risk	Treatment Recommendations	Notes
Natural Resources	Native Plant Communities not currently affected by noxious weeds	Native plant communities in moderate to high severity burned areas immediately adjacent to roads	Fire-caused disturbances create perfect conditions for noxious weed invasion and expansion. If emergency mitigation activities are not implemented this problem will expand exponentially and will require future extensive resources to manage	Very Likely	Major	Very High	Early Detection/Rapid Response	Survey and treatment of noxious weeds are proposed separately for non-suppression related impacts to mitigate risks of introduction and spread of noxious weeds into native plant communities from roads.
Natural Resources	Coho Salmon	Aquatic Habitats	Soil loss from post-fire erosion can cause flashier hydrologic response and subsequent degradation to aquatic habitats, including critical habitat for ESA listed species, Coho salmon.	Likely	Major	Very High	Recommended road treatments will protect aquatic habitat.	Within the burned area, Trail Creek is critical habitat for listed ESA species Coho salmon
Natural Resources	Watershed	Hydrologic Function	Increased runoff and sediment deposition is at risk from roads and related drainage features impacted by post-fire flows.	Likely	Minor	Low	Recommended road treatments will protect watershed resources.	
Natural Resources	Soils	Soil Productivity	Soils within high and moderate soil burn severity are at risk of hillslope erosion, mass wasting, and surface runoff which would reduce short term soil productivity and increase overland flow.	Likely	Moderate	High	No treatment recommendations	There is vegetation already coming in post-fire (bracken fern, big leaf maple, and other shrubs and forbs) and in some areas there is needle/leaf litter accumulation that will add a natural mulch layer.
Property	Roads/Property and Life	FSR 3205	In the Snow Shoe Fire area, the 3205 road is located in moderately steep slopes with moderate soil burn severity. This area is likely to see an increase in run-off which could cause damage to this road system. Road treatments are only proposed in these specific road segments	Likely	Moderate	High	Storm Proofing and Storm Inspection and Maintenance	Field surveys found that roads within this system are likely to see failure of drainage features, associated with roads passing through or downslope of moderate and high burn severity.
Cultural Resources	Property	Archeological and historic sites	Chipped stone tool artifacts, cans, and bottles now exposed by fire are visible and could potentially be surface collected. Surface collecting can also lead to looting and vandalism and loss of information that make sites eligible for the National Register.	Very Likely	Major	Very High	Camouflage exposed artifacts and features and monitor treatments	Areas of concern include Snow Shoe Spring

Category	Life/ Property/ Resources	Critical Value	Threat to Value	Probability of Damage or Loss	Magnitude of Consequence	Risk	Treatment Recommendations	Notes
Human Life and Safety	Human Life and Safety	Interior Roads to Fire Area - Hazard Trees	Hazard trees are prevalent within the South Umpqua Complex fires and pose a major threat to human life and safety. Fire suppression activities include danger tree removal in the burned area; for road systems that are not slated for treatment, there is still an inherent risk for more hazard trees to fall within the burned area throughout the winter of 2018-2019.	Possible	Major	High	Temporary Road Closures and Road Warning signs	Roads will be determined after danger tree suppression mitigations are complete
Property	Roads/Property and Life	All FS Roads in Moderate and High Severity	Roads that cross through or are located downslope of moderate and high soil burn severity areas are subject to increases in runoff, rolling debris, and falling hazard trees. These threats pose a risk to road systems where drainage failure is possible.	Very Likely	Moderate	Very High	Storm Inspection and Response	In the implementation plan, we will plan priority roads for storm patrol, with emphasis on arterial roads, then lower operational maintenance levels. .

Human Life and Safety

The Snow Shoe Fire is surrounded by communities that utilize National Forest lands for a variety of public interests such as recreating, hunting, and firewood gathering. The post-fire environment in the Snow Shoe Fire includes elevated threats to forest visitors, residents of adjacent private lands, and Forest Service employees who work, travel through, and recreate in National Forest lands. Threats to human life and safety include loss of ingress and egress within the burned area, hazard trees, rock fall, and debris flows. These threats exist along road and trail corridors and in dispersed recreation areas. The fire suppression and repair process includes the mitigation of danger trees along roads used during fire suppression; these efforts alleviate safety concerns in the burned area, but the threat of falling hazard trees will continue through the winter of 2018 – 2019. Where road systems have not been treated for hazard trees under fire suppression, roads still pose a *very likely* and *major* threat to human life and safety.

An initial 2500-8 funding request posted "Entering Burned Area" warning signs at major portals within the burned area, for $2,000. Further analysis of the burned area required 14 warning signs, at a cost of $4,578, this funding request is for the cost difference of the anticipated treatments, for $2,578.

Property

The Snow Shoe fire area has 11.7 miles of National Forest System Roads (FSR) and 0.6 miles of National Forest System trails within the burned area. Post-burn conditions and the predicted watershed response indicate the potential for an increase in runoff, and associated sediment and debris, into transportation drainage features, such as roadside ditches, culvert inlets, and roadway dips. These drainage features become vulnerable to failure when impacted by significant runoff events, allowing uncontrolled water to divert and damage forest service road prisms. The transportation systems in the burned area include roads with significant road improvement investments which can be compromised, along with threats to loss of access along road and trail segments.

Natural Resources

The Snow Shoe fire burned area includes diverse ecological systems including native plant communities, habitat for rare or endangered aquatic (Coho salmon) and terrestrial species (Northern spotted owl), and unique soil and hydrologic systems. Natural resources within the burned area are at risk for elevated watershed responses and the introduction of non-native species.

Native Plant Communities

The natural plant communities and unique habitats affected by the Snow Shoe fire provide important habitat and ecological values for wildlife and human uses. The primary threat to these communities is the invasion by non-native invasive plants that readily colonize burned areas. Non-native invasive plants reduce diversity and abundance of native plant species with a corresponding decrease in diversity and quality of wildlife habitat. Rapid colonization and expansion of non-native invasive weeds also increases erosion, decreases water quality, forage, and with some invasive species may significantly slow post fire recovery.

Dozer lines and other areas of disturbed ground from fire suppression activates can be readily colonized by non-native invasive weeds. The primary threat to these existing native plant populations and other suitable sensitive plant habitat is the introduction of weed seeds and propagules from equipment, vehicles, hoses, and firefighter gear resulting in the establishment of non-native plant species including state listed noxious weeds that could displace sensitive plant populations, which will lower plant community diversity and negatively affect ecosystem services. The risk of invasion of non-native and noxious weeds has increased due to suppression activity and wildfire. Other threats include the dispersal of noxious weeds by vehicles, off-road vehicles, cattle and hikers. Non-native species can aggressively overtake burned open spaces and crowd out native species.

Oregon Coast Coho Salmon

Within the Snow Shoe Fire area, Trail Creek is designated as Coho critical habitat, which burned in low and moderate severity in the burned area. It is likely to see a spike in turbidity and bedload associated with sediment runoff within these burned watersheds.

B. Emergency Treatment Objectives:

The primary objective of this Burned Area Emergency Response Report is to recommend prompt actions deemed reasonable and necessary to effectively protect, reduce or minimize significant threats to human life and property and prevent unacceptable degradation to natural and cultural resources. The South Umpqua Complex BAER team has recommended treatments that address the emergencies presented in the post-fire environment with the most effective, minimum treatment. The application of these BAER treatments are expected to minimize on-site and downstream damages to the identified critical values at risk. Below, the objectives are the proposed treatments are included.

Proposed Land Treatments

The objective of the land treatments are to:

1. Promote and protect native and naturalized vegetative recovery by reducing the spread of noxious weeds (L-01).

Proposed Road Treatments

The objective of the road and trail treatments are to:

1. Protect road and trail investments from becoming impassible and damaged due to increased post-fire runoff.
2. Reduce sedimentation into streams degrading water quality and endangered species habitat
3. Improve road drainage by increasing ditch and catchment basin capacity to reduce the potential for road failure due to increased flows.

Proposed Protection/Safety Treatments:

The objective of the protection/safety treatments are to:

1. Protect human life and safety by raising awareness through posting hazard warning signs at recreation sites, trailheads, and when entering the burn area.
2. Coordinate with other Federal, state, and county agencies on posting of hazard warning signs.
3. Protect worker and public safety by removing hazard trees at trailheads and within the vicinity of road and trail work.

Proposed Channel Treatments:

There are no proposed channel treatments.

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

Land **50-90** % Channel **NA** % Roads/Trails **80-100** % Protection/Safety **90-100** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	50-90%	50-90%	50-90%
Channel	NA	NA	NA
Roads/Trails	80-100%	80-100%	80-100%
Protection/Safety	90-100%	90-100%	90-100%

E. Cost of No-Action (Including Loss): 49,550

Human Life and Safety – Without signs describing hazards present in the burned area, a forest user could be unaware of risks and proceed without further consideration for their safety. Exposure to falling rocks, hazard trees, route loss and flooding are among the threats identified. The significance of protecting human life and safety is assumed self-evident and not included in the calculations used below to justify treatments.

Property – Certain road segments have been identified as being susceptible to damage by post-fire peak flows and increased runoff. A method called the Implied Minimum Value (IMV) is recommended by BAER leadership to determine the cost-benefit ratio for values at risk where market value is not available Calkin et. al., (USDA 2007). An IMV is assigned to the Property Values at Risk which equals **$25,666.**

IMPLIED MINIMUM VALUE
Estim. cost of treatments: $ 15,400
Estim. Probability of Damage or Loss w/o Treatment: 80%
Estim. Probability of Loss if Treated: 20%
IMV = Treatment Cost/(Probability Loss Untreated - Loss Treated)
Implied Minimum Value (IMV) for Property $15,400/(0.8-0.2) = **$25,666**

Natural Resources – Without treatments to minimize post-fire effects from the spread of known populations of invasive plant species, there is a risk of diminishing native vegetation and ecosysyem diversity in wilderness and the areas. Using the IMV method, the value of the native plant communities in threatened areas is $6,050.

IMPLIED MINIMUM VALUE
Estim. cost of treatments: $ 2,385

Estim. Probability of Damage or Loss w/o Treatment: 80%
Estim. Probability of Loss if Treated: 20%
IMV = Treatment Cost/(Probability Loss Untreated - Loss Treated)
Implied Minimum Value (IMV) for Property $2,385/(0.8-0.2) = **$3,975**

F. Cost of Selected Alternative (Including Loss): **$20,363 – details in treatment narrative section**

Treatment	Units	Unit Cost	# of Units	Total Cost
Life and Safety				$4,578
Property				$15,400
Natural Resources				$2,385
Cultural Resources				$0
Total				**$22,363**
Previous Funds Received in Initial Request				$2,000
Funds for this Request				**$20,363**

G. Skills Represented on Burned-Area Survey Team:

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

Team Leaders: Joe Blanchard
Claire Campbell (trainee)

Email: jhblanchard@fs.fed.us and clairecampbell@fs.fed.us Phone: 541-957-3356

Team Members:

Lizeth Ochoa – Soil Scientist
Luis Palacious – Engineer
Justin Nettleton – Engineer
Bryan Kurtz – Engineer
Mark Sommer – Hydrologist
Amy Rusk – Hydrologist
Lance Sargent – Trails and Recreation
Krista Farris – Botany and Weeds
Chris Kelly – Archaeology
Amber Nelson – Archaeology
Troy Ferone – Archaeology
Bob Grate – Archaeology
Chris Strobl – GIS

H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

L-01 – Early Detection/Rapid Response of Invasive Weed Treatment – Supression Activities

Early detection, rapid response treatments will include the survey of dozerlines, handlines, and drop points for invasive weeds and then the manual treatment of High priority state listed noxious weed species to ensure invasive species will not expand or colonize new locations within the fire perimeter of the Snow Shoe fire of the South Umpqua Complex Fire within the Umpqua National forest boundary. In the area of the fire suppression efforts, there are several documented invasive sites.

The purpose of the proposed treatments are to eliminate the spread and establishment of noxious weeds into the South Umpqua Complex fire area on the Snow Shoe fire portion.

Implementation Plan Summary

Treatments will be implemented beginning this fall, 2018, and continue into spring 2019. Effectiveness monitoring will continue into 2019. The planned implementation mechanism is an IDIQ restoration services contract for both EDRR survey and EDRR treatment with oversight from the Umpqua National Forest native plants program.

EDRR Suppression Line Items	Forest	Fire	Unit	Unit Cost	# of Units	Total Cost
Weed surveys	**UMP**	Snowshoe	miles	$100	4.45	$445
Treatments (est. based on existing infestations)	**UMP**	Snowshoe	acres	$300	2.5	$700
GS-09 admin of survey, treatment, data entry	**UMP**	Snowshoe	days	$310	2	$620
Monitoring treatment effectiveness	**UMP**	Snowshoe	days	$310	2	$620
total	**UMP**	**Snowshoe**				**$2,385**

Treatment	Units	Unit Cost	# of Units	Total Cost
Invasive Plant Surveys/detection	Lump sum	3,632	1	$2,385

Roads and Trail Treatments:

R-01 – Storm Proofing:

Road storm proofing treatments are designed to prepare road systems within the burned area for elevated runoff that is anticipated to impact road drainage features and pose an elevated risk to the Forest Service property infrastructure. In the Snow Shoe fire burned area, 2.95 miles of road were identified as needing treatment based on proximity (traveling through or down-slope of) moderate and high burned areas. Storm proofing treatments consist of a variety of drainage maintenance including:

1. Culvert Cleaning – Culvert cleaning includes the cleanout of catchment basins, inlets and outlets. The cleanout of catchment-basins below the inlet of the culvert is done to capture the sediment transported from the channel or ditch. Capturing the sediment will help in preventing the culvert inlet from being partially plugged or completely buried. Culvert outlet cleanout is done to remove any material that would impede the flow of water through the outlet of the culvert.

2. Ditch Cleaning – The cleanout of drainage ditches is required to remove any debris that may deflect the flow out of the ditch and also to ensure the flow reaches the outflow structure.

3. Culvert Catch Basin cleaning and enhancement-The cleaning and enhancement of catch basins is to allow for efficient culvert flow and extra capacity for sediment due to expected enhanced flows.

Implementation Plan Summary
Storm proofing treatments on the Umpqua National Forest are being prioritized, with FSR road 3205 being the highest priority treatment area, with major arterial road prisms also being treated for anticipated increases in peak flows. The planned implementation mechanism is an IDIQ road contract.

Treatment	Units	Unit Cost	# of Units	Total Cost
Storm Proofing	Miles	$5,802	1.57	$9,163

R-02 – Storm Inspection and Response:
The Snow Shoe burned area includes several watersheds that have been subjected to moderate and high severity burned areas which are at an increased risk for elevated flows, which may damage road systems, by exceeding the capacity of road drainage structures. If drainage structures become plugged by debris, they are likely to fail and can cause moderate to major impacts to the National Forest transportation system. Storm inspection and response would keep culvert and drainage structures functional by cleaning sediment and debris from drainage structures between and during large storm events.

Based on predicted storm events and historic trends, it is anticipated that 2 days are needed for storm inspection and response in the 2018-2019 post-fire seasons. Work will include Forest Service personnel inspection of transportation systems and identification of problems, and then response treatment to correct the damages to road drainage features, including 2 days for forestry technicians to log out roads where access may be obstructed by downed trees.

Implementation Plan Summary
For the Umpqua National Forest, storm inspection and response would be completed by the Umpqua's Forest Service road crew, using rental equipment and general labor costs. Storm inspection patrols will be prioritized by the level of soil burn severity and also the operational maintenance level of the road system. FSR 3205 has been identified as the highest priority inspection area because of its numerous stream crossings.

Treatment	Units	Unit Cost	# of Units	Total Cost
Storm Inspection GS-09 Road Manager	Days	$285	2	$570
Log Out for Road Access, 2 GS-07 Forestry Technicians	Days	$550	2	$1,100
Road Crew Response Cost	Days	$2000	2	$4,000
Administrative and Contract Costs (10%)	Lump sum	--	--	$567
Total Costs				**$6,237**

Protection/Safety Treatments:

P-01 – Road Hazard Signs: Signs will inform users of the dangers associated with entering and recreating within the burned area.

Road Warning Signs will be located at critical portals when entering the fire area. Road warning sign locations are located on the BAER treatment map (Appendix A).

Treatment	Units	Unit Cost	# of Units	Total Cost
Installation of warning sign 30x48	Sign/Post	$327	14	$4,578

An initial request of $2,000 for the Snow Shoe Fire included only public warning hazard signs for the fire area. This $2,000 will be applied to the total Road Hazard signs treatment cost, therefore this request is only for a total of $2,578.

P-05 – Temporary Road Closures

Emergency road closures mitigate hazards to protect human life, safety, and property. Burned areas include hazard trees that now become susceptible to falling as the trees are dead or soon will be dying. These trees will be a hazard to motorists who may encounter falling trees while traveling in the Snow Shoe fire area.

There is an immediate risk to travelers along the roads within the burned area due to the increased potential for rolling and falling rock from burned slopes, this risk is anticipated to last through the winter of 2018-2019 and beyond. With the loss of vegetation, normal storm frequencies and magnitudes can more easily initiate erosion on the slopes and it is likely that this runoff will cover the roads or cause washouts at drainage facilities (culverts) or stream crossings. These events make for hazardous access to forest roads and put the safety of users at risk.

Suppression repair activities associated with the South Umpqua Complex Fires include on-going danger tree mitigations through main arterial roads in the burned area. It is recommended that collector roads that are interior to the burned area that may not be treated during danger tree mitigations be closed to public access to mitigate the threat to life and safety.

Emergency road closures will be signed to protect human life, safety, and property; these costs are represented in the road warning signs treatments. Road closures should be temporary and roads should be re-evaluated and re-opened when hazards are no longer a threat. Roads recommended to be closed are listed in Tables below.

Snow Shoe Fire			
Road	Beginning Location	Ending Location	Length (miles)
3205-000	Forest Boundary	Terminus	1.86
3205-011	3205-000	Terminus	0.97
3205-012	3205-012	Terminus	1.18
3205-014	3205-000	Terminus	0.25
3232-915	3232-910	Terminus	0.20
3232-918	3232-910	Terminus	0.10
3232-921	3232-910	Terminus	0.21
3232-922	3232-922	Terminus	0.52
3232-923	3232-910	Terminus	0.58
3232-946	3232-945	Terminus	0.35
3232-947	3232-945	Terminus	0.08
Total Miles of Temporary Road Closures			6.3 miles

Treatment	Units	Unit Cost	# of Units	Total Cost
Administrative – Closure Documentation	Lump sum	$0	--	$0

I. **Monitoring Narrative:**

No monitoring funds are requested.

Part VI –

Snow Shoe Fire– Umpqua National Forest
Emergency Stabilization Treatments and Source of Funds
Interim # 1

			NFS Lands		
Line Items	Units	Unit Cost	# of Units	BAER $	Other $
A. Land Treatments					
L-1 EDRR Suppression	each	$2,385	1	$2,385	$0
				$0	$0
				$0	$0
Insert new items above this line!				$0	$0
Subtotal Land Treatments				$2,385	$0
B. Channel Treatments	None proposed				
Subtotal Channel Treat					
C. Road and Trails					
R-1 Storm Proofing	miles	$5,802	1.57	$9,163	$0
R-2 Storm Inspection and M	lump sum	$6,237	1	$6,237	$0
				$0	$0
Insert new items above this line!				$0	$0
Subtotal Road & Trails				$15,400	$0
D. Protection/Safety					
P-1 Road Hazard Signs	Each	$327	14	$4,578	$0
P-5 Temporary Road Closu	lump sum	$0	0	$0	$0
				$0	$0
Insert new items above this line!				$0	$0
Subtotal Structures				$4,578	$0
E. BAER Evaluation				$10,000	$10,000

Insert new items above this line!				---	$0
Subtotal Evaluation				---	$0
F. Monitoring	None proposed.				
				$0	$0
Insert new items above this line!				$0	$0
Subtotal Monitoring				$0	$0
G. Totals				$22,363	$10,000
Previously approved				$2,000	
Total for this request				**$20,363**	

PART VII - APPROVALS

1. _____ 9/20/18
Forest Supervisor (signature) Date

2. _____ 11/1/2018
for Regional Forester (signature) Date