Date of Report: 7/2/2021

BURNED-AREA REPORT

PART I - TYPE OF REQUEST

A. Type of Report

☒ 1. Funding request for estimated emergency stabilization funds

☐ 2. No Treatment Recommendation

B. Type of Action

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

☐ 2. Interim Request #___

☐ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Dry Creek

B. Fire Number: OR-WWF-000349

C. State: OR

D. County: Wallowa

E. Region: 06

F. Forest: Wallowa-Whitman

G. District: Wallowa Mountain Office

H. Fire Incident Job Code: P6N18Y (0616)

I. Date Fire Started: 06/04/2021

J. Date Fire Contained: 6/30/2021

K. Suppression Cost: $610,000

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

1. **Fireline repaired (miles):**
2. **Other (identify):**

M. Watershed Numbers:

Table *1*: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
1706010301	Cherry Creek- Snake River	88,001.14	1,568.11	1.78%

Table 2: Acres Burned by Subwatershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170601030102	Cook Creek	17864.42	1,568.11	8.78%

N. Total Acres Burned: 1,585

Table 3: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	1,585
OTHER FEDERAL (LIST AGENCY AND ACRES)	0
STATE	0
PRIVATE	0
TOTAL	1,585

O. **Vegetation Types:** Forest stringers and north slopes are dominated by mixed conifer, Douglas fir and Ponderosa pine stands, and/or shrub stands. The benches, lower slopes and south and east facing slopes are dominated by grass communities, primarily bluebunch wheatgrass and Idaho fescue plant associations with inclusions of three awn, sand dropseed, Sandberg's bluegrass, and prairie junegrass. In the areas with less slope that have been degraded by past land use activities there is a stronger presence of cheatgrass and other brome species, ventenata, medusahead rye, and other invasive annual species. Shrublands exist in draws, previously burned slopes, mesic bench groves and along riparian areas. Shrub stands include sumac, snowberry, rose, bitterbrush, ninebark hawthorn, rocky mountain maple, poison ivy, elderberry, and hackberry. The white alder/mesic shrub plant community type dominates the riparian area of Cook Creek and lower Downy Gulch. Blackberry has invaded many areas of the alder plant community.

P. Dominant Soils: The dominant soil order within the Dry Creek fire perimeter is Mollisols, with select areas of Andisols. The dominant soil texture is loamy skeletal, meaning that most of the soils in this area contain at least 35% rock particles coarser than 2mm. Approximately 10-20% of the surface is rock outcrops or rubble lands with no or minimal soil cover.

Q. Geologic Types: Predominately Columbia River flood basalt; mafic intrusive rocks and mixed-composition sedimentary rocks in select areas.

R. Miles of Stream Channels by Order or Class:

Table 4: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERENNIAL	2.6
INTERMITTENT	14.9
EPHEMERAL	0.0
OTHER (DEFINE)	N/A

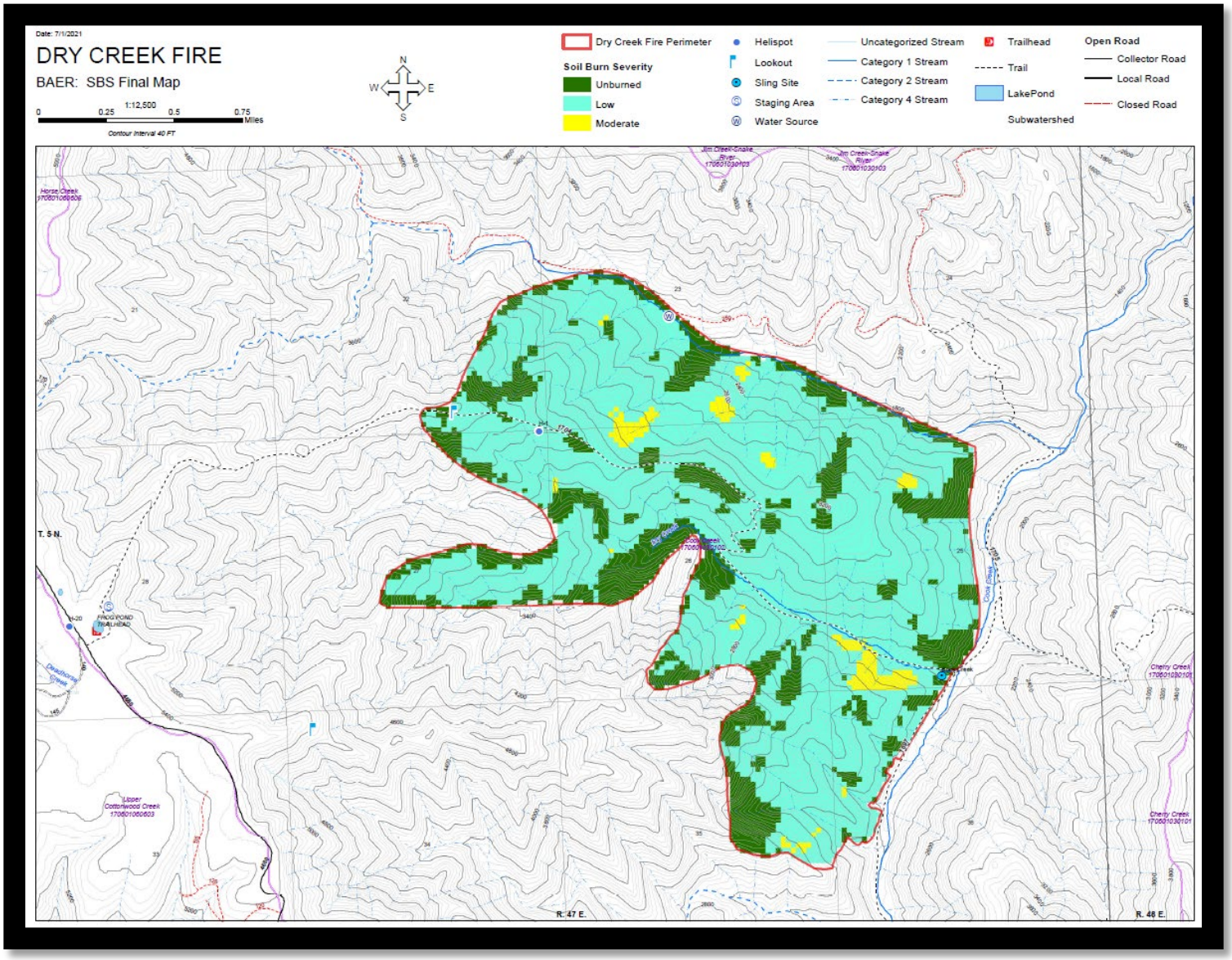
S. **Transportation System:**
Trails: *National Forest (miles):* 2.92
Roads: *National Forest (miles):* 0.0

PART III - WATERSHED CONDITION

A. Burn Severity (acres): A BARC map was acquired and used, along with observational data, to create a SBS map. According to intel, reconnaissance photos, and drone footage, most of the fire area was low burn severity with small pockets of moderate severity (mostly under trees where there was a heavier layer of duff).

Table 5: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned	344	--	--	--	344	22.0
Low	1,184	--	--	--	1,184	75.7
Moderate	39	--	--	--	39	2.5
High	0	--	--	--	0	0
Total	1,568	--	--	--	1,568	100



B. Water-Repellent Soil (acres): fire-induced water-repellency within the soil profile is unlikely to have occurred because of the low soil burn severity and vegetation types.

C. Soil Erosion Hazard Rating: Soil Erosion Index – Low 345 acres (22%), Moderate 1,184 acres (76%), and High 39 acres (3%)

D. Erosion Potential: Unburned Conditions: 19 ton/yr, Burned Conditions: 21 ton/yr

E. Sediment Potential: Unburned Conditions: 190 ton/yr Burned Conditions: 180 ton/yr sediment discharge. Post-burn conditions are lower than pre-fire conditions, likely because of storms modeled were different. Dry Creek, Cook Creek, and Downey Gulch inherently produce sediment from erosion and carry sediment that is lost from neighboring steep hillslopes. Sedimentation in these drainages is expected to stay within background levels. The mosaic burn pattern and low overall soil burn severity greatly reduces the potential for fire-induced increases in sediment output.

F. Estimated Vegetative Recovery Period (years): within 2-3 years for recovery of herbaceous vegetation

G. Estimated Hydrologic Response (brief description): Burn severities in the Dry Creek Fire area were primarily low severity (75.7%) with no high severity areas present (Table 5). Headwater areas of Downey Creek and Dry Creek were not within the burned area. The soil erosion index for the fire area is primarily rated as moderate (75.5% of the fire area) with only 2.5% of the fire area rated as high. Adverse effects (e.g. sedimentation, debris flow, etc.) are unlikely due to the low fire severities. Affects to water temperature are also unlikely as there was little apparent loss of overstory shrubs along Cook Crook or Downey Gulch.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Dry Creek fire were started from an overnight lightning storm the night of June 3, 2021. The fire was burning in steep, rugged part of Hells Canyon, northeast of Joseph, OR. Fuels include grass, shrubs, and sparse timber. Fire growth was driven by high winds on Saturday, June 5, 2021. Relatively calm and cool conditions prevailed over the next several days, which moderated fire behavior. The fire was returned to the local unit on June 11.

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

Table 6: Critical Value Matrix

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**

Value	Probability	Consequence	Rating	Threat
Life and Safety - Trails	Possible	Major	High	Potential of falling rocks and localized erosion on trail
Property - FSR 4680250	Unlikely	Minor	Very Low	No hazard trees nor any infrastructure damaged
Property - Trail 1697 (Cook Cr)	Possible	Minor	Low	Increased potential for rockfall
Property - Trail 1704 (Dry Cr)	Possible	Moderate	Intermediate	Increased potential for rockfall and localized erosion from moderate severity burn areas
Property - Trail 1705 (Cherry Cr)	Possible	Moderate	Low	Increased potential for rockfall
Natural Resources - Soil Productivity and Hydrologic Function	Possible	Moderate	Intermediate	Localized soil erosion in moderate severity pockets and on low severity steeper slopes
Natural Resources - Native Plants	Likely	Major	Very High	Invasive plant establishment from suppression activities or spread into burn. Invasives within fire include: Rush Skeleton, Scotch Thistle, blackberry, etc.)
Cultural - House pits with scatter	Possible	Minor	Low	May be prone to rockfall from steep slopes above.

1. **Human Life and Safety (HLS):** There are no designated trail heads or camp sites within the fire. Dry Creek Trail #1704 and Cook Creek Trail #1697 are within or adjacent to fire perimeter, both trails come off Frog Pond Trail head and have low usage. Burn severity along drainages in the fire ranged from unburned to low. Only the Dry Creek Trail occurs below small pockets of moderate severity where some localized erosion could come onto the trail surface. Rockfall onto trails is a natural occurrence. However, the temporary loss of surface vegetation will increase the risk of

rockfall along several trails that are at the base of steep, burned slopes. This will increase the risk to hikers, stock users, and mountain bikers using trails until surface vegetation is recovers. Trails in and adjacent to the fire are difficult to close. Therefore hazard signs will be placed to inform users of the changed conditions.

Property (P): There are no roads within the fire area. The fire perimeter in GIS crosses FR 4680250 (aka "Jim Creek Road"), however, based on comments from WWNF fire personnel (Gabe Hale, WFZ) the fire did not cross the road. There are three Forest Service trails in the fire area; Dry Creek Trail (#1704), Cherry Creek Trail (#1705), and Cook Creek Trail (#1697). Rockfall may damage the trail surface, but **no treatments are proposed**.

3. **Natural Resources (NR):** There are no municipal, domestic, or hydropower water supplies or waters with special Forest Service of State designations in the fire area. There is a livestock water development in the Dry Creek drainage in the fire area. There are no ESA-listed species present in the fire area. There are about 0.5 miles of designated critical habitat for SR steelhead (Threatened) within the Cook Creek SWS. Steelhead DCH is located about 1.3 miles downstream from the fire area. No other DCH for ESA-listed is present in the Cook Creek SWS.

   Spread of invasive plants from known and unknown sites into native plant communities in the fire area is a concern. There are four invasive plant species known to occur in or adjacent to the fire area; rush skeletonweed (*Chondrilla juncea*), Scotch thistle (*Onopordum acanthium*), common crupina, (*Crupina vulgaris*) and Himalayan blackberry (*Rubus discolor*). Several of these invasive species can spread rapidly into newly burned areas until enough ground cover can be restored. There are also a drop point and spike camp used for suppression activities that may spread invasive species.

4. **Cultural and Heritage Resources:** Two cultural sites occur adjacent to the fire (e.g. Upper Downey Creek Housepits and House pits with scatter). The House pits with scatter occurs near Cook Creek and the base of steep, burned hillslope. This site may be prone to rockfall, but its not believed this will damage the pits or scatter. **No treatments are proposed.**

B. Emergency Treatment Objectives:

- Protect human life and safety from rockfall and rock hazards on trails adjacent to steep burned slopes.

- Minimize the impact to native plant communities by reducing the spread invasive plants in areas used by fire suppression and in localized areas suspectable to spread within the fire where invasives are currently either absent or present in very minor amounts in the first year following fire containment.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: 100%
Channel: NA
Roads/Trails: NA
Protection/Safety: 100%

D. Probability of Treatment Success

Table 7: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	85	95	95
Channel	--	--	--
Roads/Trails	--	--	--
Protection/Safety	90	100	100

E. Cost of No-Action (Including Loss): An economical value can't be placed on the loss of native/naturalized plant communities nor human life which the treatments are intended to address.

F. Cost of Selected Alternative (Including Loss): Refer to attached Values at Risk (VAR) spreadsheet for specific costs. The VAR analysis summary identified that the total treatment cost is estimated at $7,692 with an expected benefit of $11,744. The expected benefit/cost ratio is 0.66 and is below the 1.0 justification threshold. The reason for this is because an economical value can't be placed on the loss of native/naturalized plant communities nor human life which the treatments are intended to address.

G. Skills Represented on Burned-Area Survey Team:

☒ Soils ☒ Hydrology ☐ Engineering ☒ GIS ☐ Archaeology
☒ Weeds ☒ Recreation ☒ Fisheries ☐ Wildlife
☐ Other:

Team Leader: Mary Young
Email: mary.young@usda.gov **Phone(s)**: 541-962-8501

Forest BAER Coordinator: Mary Young
Email: mary.young@usda.gov **Phone(s):** 541-962-8501

Team Members: *Table 8: BAER Team Members by Skill*

Skill	**Team Member Name**
Team Lead(s)	Mary Young, John Chatel
Soils	Mary Young, Colleen Laird (trainee)
Hydrology	Alan Miller, Cynthia Armentrout (trainee)
Fisheries	Alan Miller, Cynthia Armentrout (trainee)
GIS	Melanie Sutton
Archaeology	--
Weeds	Beckijo Smergut-Wall
Recreation	Samuel Wiswell
Other	--

H. Treatment Narrative:

Land Treatments:

Noxious Weeds EDRR

Purpose of Treatment: To respond to the potential for rapid invasion of invasive plants into native plant communities on the Wallowa-Whitman National Forest. EDRR is prescribed in order to mitigate long term impacts to native plant communities and riparian areas within and in the vicinity of the fire's boundaries. The purpose of treatments is to promote native plant resources by removing invasive plant populations for the stability and viability of plant and riparian communities.

General Description: Invasive plant detection surveys – Known infestations within the Dry Creek burn perimeter will be assessed for potential spread or expansion. Four invasive plant species are identified in or adjacent to the fire. These include rush skeletonweed, Scotch thistle, common crupina, and Himalayan blackberry. Although there is minimal moderate severity burn within the fire perimeter several of these species are very aggressive and can rapidly spread before ground cover is restored within the first year. When assessment actions are initiated, personnel will be equipped to immediately treat infestations when suppression repair is completed, and safe access is possible. This will allow for the best chance of managing known infestations to prevent an expansion from pre-fire levels. Additionally, detection surveys will be focused in two areas used for suppression (e.g. drop point and camp) where increased infestation is possible. BAER funding authorization will be used for the first year (starting October 2021) to meet objectives above. Existing or future partnerships may be used to monitor and/or treat invasive plants on National Forest System Lands

Location (Suitable) Sites: Known and expected invasive plant sites within and directly adjacent to the Dry Creek Fire area on National Forest System Lands. Proposed locations for surveys are along vector corridors and within moderate severity burned areas within the Dry Creek Fire. New sites found during EDRR surveys will be treated to the extent possible with priority given to sites within or near to trails and near riparian habitat. See the map that accompanies this proposal for more specific location information.

Design/Construction Specifications: Detection surveys entail hiking vector corridors and hiking areas of moderate burn severity. Survey protocols include GPS mapping, flagging, and documenting occurrences. Treatments include manual removal and chemical application.

Channel Treatments: None proposed

Roads and Trail Treatments: None Proposed

Protection/Safety Treatments:

Trail Warning Signs

Purpose of Treatment: The public needs to be made aware of the hazards associated with post-fire events, such as falling objects, debris flows and rolling rocks (especially during heavy rain events), and potential for flooding (especially during heavy rain events). These hazard warning signs will inform the public, increase safety, and transfer responsibility of post-fire effects safety to the public.

General Description: Install hazard warning signs at trailheads and parking areas for trails that access or are adjacent to the fire to inform the public of the hazards associated with post-fire events, such as mud slides and rolling rocks (especially during heavy rain events), and potential for flooding (especially during heavy rain events).

Location (Suitable) Sites:

- Frog Pond Trailhead (45.880262, -116.948559),
- The intersection of closed Jim Cr. Road and FSR 4680 (45.914385, -116.951334)
- The intersection of FSR 760 and Trail 1697 (45.792893, -116.863986)
- The north end of FSR 788 where it intersects Trail 1705 (45.837722, -116.841268)

Design/Construction Specifications:

- Install hazard warning sign at each of the above listed trailhead and other parking areas.
- Sink a U-channel post or Square tube post at the entrances to the listed sites. Place in conspicuous locations.

- Mount 11” X 17” Aluminum signs (with pre-drilled holes) to U-channel or Square tube posts. Use fender washers if necessary, to prevent bolt head from pulling through sign during high wind events.
- Periodically check signs and maintain or replace as needed.

I. Monitoring Narrative: No monitoring is proposed

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
Noxious Weed Treatments Suppression	Acres	378	2.6	$983	$0		$0		$0	$983
Noxious Weed Treatments Non-Suppression	Acres	98	64.5	$6,321	$0		$0		$0	$6,321
Subtotal Land Treatments				$7,304	$0		$0		$0	$7,304
B. Channel Treatments										
				$0	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails										
				$0	$0		$0		$0	$0
Subtotal Road and Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
Trail Warning Signs	Each	97	4	$388	$0		$0		$0	$388
				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$388	$0		$0		$0	$388
E. BAER Evaluation										
Initial Assessment	Report	$10,698	1	---	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$7,692	$0		**$0**		**$0**	**$7,692**
Previously approved										
Total for this request				**$7,692**						

PART VII - APPROVALS

1. Anthony Botello 7/16/2021

Forest Supervisor Date