

BURNED-AREA REPORT

(Reference FSH 2509.13)

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

☒ 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)

A. **Fire Name:** Black Fire

B. **Fire Number:** UT-UWF-000567

C. **State:** Utah

D. **County:** Tooele

E. **Region:** Intermountain

F. **Forest:** Uinta-Wasatch-Cache

G. **District:** Spanish Fork

H. **Fire Incident Job Code:** P4H9E1

I. **Date Fire Started:** 07/24/2014

J. **Date Fire Contained:** 07/27/2014

K. **Suppression Cost:** \$161,000

L. **Fire Suppression Damages Repaired with Suppression Funds**

1. **Fireline waterbarred (miles):** 0

2. **Fireline seeded (miles):** 0

3. **Other (identify):** 0

M. **Watershed Number:** 160300050604

N. **Total Acres Burned:** 672

[672] **NFS Acres** ☐ **BLM** ☐ **Tibal** ☐ **State** ☐ **Private**

O. **Vegetation Types:** Mahogany, pinyon-juniper and juniper; sagebrush-grass, tall shrub-mountain brush.

P. Dominant Soils:

Reywat – Found on hillsides at elevations between 5,200 and 7,200 feet. Slopes range from 30-60%. Soils formed in residuum and/or colluvium derived from quartzite and igneous rocks. Soils have a very cobbly loam surface texture and very cobbly clay loam subsurface texture. Soil depth is shallow (0-20 inches). Drainage class is well drained. T-factor is 1.

Broad – Found on hillsides at elevations between 5,200 and 7,200 feet. Slopes range from 30-60%. Soils formed in residuum and/or colluvium derived from quartzite and igneous rocks. Soils have a very cobbly loam surface texture and very cobbly clay loam subsurface texture. Soil depth is moderate (20-40 inches). Drainage class is well drained. T-factor is 2.

Q. Geologic Types: primarily quartzite and granite

R. Miles of Stream Channels by Order or Class: Perennial – 0 miles, intermittent/ephemeral – 1.1 miles

S. Transportation System

Trails: 0 miles Roads: 1.9 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 440 (low) 224 (moderate) 8 (high)

B. Water-Repellent Soil (acres): 8

C. Soil Erosion Hazard Rating (acres): (low) (moderate) (high)

D. Erosion Potential: tons/acre/year

E. Sediment Potential: tons/acre

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): years

B. Design Chance of Success, (percent):

C. Equivalent Design Recurrence Interval, (years):

D. Design Storm Duration, (hours):

E. Design Storm Magnitude, (inches):

F. Design Flow, (cubic feet / second/ square mile):

G. Estimated Reduction in Infiltration, (percent):

H. Adjusted Design Flow, (cfs per square mile):**PART V - SUMMARY OF ANALYSIS**

The Black fire was started by lightning on July 24th at 2:45 p.m. and is located north and east of Erickson Pass on the Sheeprock Mountains, in Tooele County. The fire was 670 acres and burned in grass, brush and pinyon.

A. Describe Critical Values/Resources and Threats (narrative): The BAER ID team assessed several values at risk and threats on National Forest lands and the result of the assessment is shown in Table 1.

Table 1. BAER Risk Assessment for NFS Lands			
Critical Value/Resource and Threats	Probability of Damage or Loss	Magnitude of Consequences	Risk Assessment
Hydrologic Resources	Possible	Minor	Low
Aquatic Resources	Unlikely	Minor	Low
Soils Resources	Possible	Minor	Low
Native or Naturalized Plant Communities	Likely	Moderate	High
Heritage Resources	Possible	Minor	Low
Safety due to Hazard Trees	Unlikely	Minor	Low

SOIL RESOURCES – Soils on the steeper hillsides and mountainsides (20-60% slopes) in general formed from parent material consisting of colluvium or residuum derived from quartzite and igneous rocks. Soils are generally shallow (10-20 inches), well drained, and contain 15 to 60% rock fragments. Shallow soils typically have lower site productivity, lower vegetative cover, and lower effective soil cover.

Soil Unit	Soil Unit Name Percent Slope Component % of Map Unit	Surface Soil Texture	T Factor¹ (tons/ acre)	K Factor²	Surface Rock (%)	Hydro- logic Group	Rooting Depth (in)
48 (Reywat- Broad- Rock Assn. 30 to 60% slopes)	Reywat (45%)	Very Cobbly Loam	1	0.32	35 to 60	D	10 to 20
	Broad (30%)	Cobbly Loam	2	0.20	15 to 35	C	20 to 40

Note: Information about soils within the fire perimeter can be found in the Tooele Area Soil Survey (NRCS, 2000).

The Black Fire occurred in an area that had been analyzed during the summer of 2011 for a rangeland project. Ground cover estimates then ranged from 87 to 100% within the project area. Ground cover consists of live vegetation, litter, biologic crusts, and rocks. Organic matter

estimates range from 82 to 100%. Organic matter is the vegetation surface litter and acts as a reservoir for several nutrients and is the source of most available phosphorous, sulfur, and nitrogen.

Soils within the fire perimeter in general have low productivity potential due to shallow soils, steep sideslopes, and rock content of the soils. Vegetation within the perimeter consisted of juniper and oak brush. Ground cover under these vegetation types and within the interspaces frequently becomes sparse. Where the parent material is granitic it has weathered to small fragments, called *grus*, which has covered much of the surface. However, this cover does help reduce erosion potential.

Loss of vegetation will increase the erosion potential in the area and can further reduce future productivity. Even after vegetation has re-established it will take many years for the duff and litter layers to accumulate and decades for the soil stability and soil nutrient stores to rebuild. In addition, there is the potential for the area to be compromised by invasive weed species. Invasive weeds have the potential to cause a decline in soil productivity by altering soil nutrient availability, water holding capacity, and erosion potential.

No additional work is expected for the soil resource for the Black Fire. No rills or gullies have formed, an indicator of increased erosion and lost soil, because of the rock fragments and the coarse soil texture. The fire burned light in the majority of the perimeter which would allow for a seed source to remain within the soil. The fire also left unburned patches which has created a mosaic over the landscape. This mosaic will help act as a barrier to overland flow. The area will be monitored for invasives and treated as needed which will benefit the soil resource.

HYDROLOGIC RESOURCES – The water resources that drain the fire area are ephemeral streams and one small spring. There are no critical values at risk from a damaging storm and no hydrologic design is included in this report.

AQUATIC RESOURCES – There are no critical aquatic resources that would be impacted from post-fire effects.

HYDROLOGIC RESOURCES – The water resources that drain the fire area are ephemeral streams and one small spring. There are no critical values at risk from a damaging storm and no hydrologic design is included in this report.

AQUATIC RESOURCES – There are no critical aquatic resources that would be impacted from this fire.

NATIVE OR NATURALIZED PLANT COMMUNITIES - Vegetation within the fire area consists of juniper, gambel oak, curleaf mountain-mahogany, sagebrush, along with interspersed grasses, various forbs and other shrubs. The majority of the fire area burned at low to moderate severity leaving patches of vegetation unburned in a mosaic pattern. The nature of the soils and the naturally sparse plant growth in this fire area also contributed to this mosaic burn pattern. Where vegetation was burned in the low to moderate levels, the soil layer was not as heavily impacted and survival of plant roots and seeds in the soil should enable recovery of perennial grasses and other vegetation to occur naturally, given time. Sprouting species such as oakbrush may begin to resprout as early as this fall. These areas should also provide a seed source for the higher severity burn area and therefore no reseeding is recommended within this fire area.

The most important aspect to protect native plant communities is to prevent competing invasive species.

It is likely that noxious and invasive weeds will invade currently uninfested areas within the fire area if not monitored for and treated. Noxious weeds can directly impact recovery of native plant communities and indirectly impact watershed values, soils, wildlife, visuals, recreation uses, etc if not prevented.

On lands adjacent to the forest service, or along roads leading to FS lands and on FS lands there are infestations of Field bindweed, (*Convolvulus arvensis*), Squarrose knapweed, (*Centaurea virgata* ssp. *squarrosa*), and Canada thistle (*Cirsium arvense*). The first two species are listed as Class B noxious weeds by the State of Utah, and the last as a Class C noxious weed.

Of greatest concern is an existing infestation of Squarrose knapweed which is located within the fire area, on the 0019 road, (reported as treated this season). This species has been documented as aggressive and very environmentally detrimental. Knapweeds are known to produce thousands of wind dispersed seeds. Knapweed seeds are hearty and are suspected to remain dormant in the soil for up to five years. Knapweeds are also known to establish rapidly in disturbed areas and have been known to rapidly invade burned areas.

There is an infestation of whitetop (*Cardaria draba*), which is listed by the State of Utah as a Class B noxious weed located within the fire perimeter in the southeastern portion of the fire area, along the 565 road. It is possible that this existing infestation could expand if left untreated, and it is likely that some treatment will be necessary. The risk of increased infestations of this species is possible due to this existing population and seed source within the fire perimeter.

Curlycup gumweed, (*Grindelia squarrosa*), a native, weedy/invasive was also located on and along some of the roadsides within the fire area. Some were not burned or effected by the fire. This species tends to colonize disturbed areas and establish or increase after fire via wind-dispersed seeds or by sprouting from its short, vertical rhizome. When burned this plant is generally top-killed. There could potentially be an increase in numbers of this species within the fire area, however, this weedy species is native, is not as aggressive as other weeds listed as noxious and is rarely treated, so is expected to remain within the area.

Although there is presence of cheatgrass within the general area it appears there should be sufficient amounts of perennial vegetation to revegetate the burn area and successfully out compete it. Natural revegetation (no seeding) is most effective at higher elevations with sufficient moisture to aid perennial vegetation regrowth, and this fire occurred above 6,000 feet, (6400 to 8000 feet elevation). No biological control agents for cheatgrass have been approved, however promising research is being conducted on using a head smut fungus (*Ustilago bullata*) that may reduce seed yield. Cheatgrass invasion may be avoided on sites that have sufficient cover of native perennials, favorable climatic conditions for postfire recovery and proper management of livestock.

Grazing-12 Guideline: Defer livestock grazing in areas disturbed by wildland fire or other natural events until vegetation has reestablished sufficiently, but for no less than two growing seasons. (2003 Land and Resource Management Plan, Uinta National Forest).

With prevention being the first line of defense against aggressive invasive and noxious weeds,

any existing weed infestations located within or near the fire area should be treated as soon as possible, (see paragraph above -- some treatment has already occurred), to reduce the potential to spread throughout the fire area. Care should also be taken to keep any new invading weeds from getting established and spreading into the fire area. Post-fire weed surveys should be conducted in and near the fire area for a minimum of five years (or more depending upon the species and seed bank longevity).

Threatened, Endangered and Sensitive Species: There are no known TES plant species within the fire area.

HERITAGE RESOURCES – There are several cultural sites that were impacted by the Black Fire. It is expected that there will not be post-fire effects to cultural resources.

HAZARD TREES –Hazard trees are a minor consequence of the Black Fire..

RANGE RESOURCES – A range fence was burned and it is possible that the wire is now brittle. During field visit, four H-braces were seen burned that was part of the range fence. A small seep/spring located within the fire area is undeveloped, heavily trampled and in extremely poor condition, see photos.

Grazing-12 Guideline: Defer livestock grazing in areas disturbed by wildland fire or other natural events until vegetation has reestablished sufficiently, but for no less than two growing seasons. (2003 Land and Resource Management Plan,Uinta National Forest).

B. Emergency Treatment Objectives (narrative): XXX

The objective for the treatment is to allow native plant recovery following fire by preventing competing noxious weed infestations.

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

Land 80% **Channel** XXX% **Roads/Trails** XXX% **Protection/Safety** XXX%

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	80	80
Channel	XXX	XXX	XXX
Roads/Trails	XXX	XXX	XXX
Protection/Safety	XXX	XXX	XXX

E. Cost of No-Action (Including Loss): \$12,000

F. Cost of Selected Alternative (Including Loss): \$4,040

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS

Team Leader: Charlie Condrat

Email: ccondrat@fs.fed.us **Phone:** 801-999-2173

FAX: 801-999-2187

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.)

In order to allow recovery of native plant species, noxious weed monitoring and treatment through early detection and response is recommended.

Land Treatments: Early Detection Rapid Response-Noxious Weeds

Noxious and invasive weed invasion is an emergency situation caused by the Black Fire. This recently burned area offers a disturbed site for noxious weeds to occupy. There is a likelihood of existing noxious and invasive species infestations to spread within the burn area post-fire and for new infestations to occur. Monitoring will consist of visually observing the burned area over several weeks during the spring and summer of 2015 to catch both early and late maturing weed species and will be focused in (but not limited to) burned areas adjacent to existing known populations, in areas where fire containment activities occurred on NFSs, and next to roads and/or trails. Any new noxious weed populations or expanded portions of existing infestations should be eradicated.

To mitigate the emergency, during the one-year emergency stabilization period, action would be taken to implement "Early Detection and Rapid Response" for weeds on Uinta-Wasatch-Cache NF lands, including:

- Monitoring will be completed by a crew of two individuals qualified to identify target weed species under the direction of their supervisor.
- Areas around existing infestations would be monitored nine times during the spring and summer of 2015 in order to locate and treat any expansion of the infestations.
- Monitoring will be accomplished within the fire area to locate and spot-treat, (eradicate), any small/isolated invading weed populations, to prevent spread.
- Small knapweed infestations will be hand pulled or dug up, bagged and removed at the time they are located. If large infestations are located, treat or flag for later treatment.
- New populations and expanded portions of existing noxious weed infestations located will be inventoried, mapped, and treated.
- Treatment forms will be filled out and the information entered into the national database.

No treatments are recommended.

Channel Treatments: No treatments are recommended.

Roads and Trail Treatments: No treatments are recommended.

Protection/Safety Treatments: No treatments are recommended.

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.)

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim #

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										
Botanist	day	370	2	\$740	\$0		\$0		\$0	\$740
GS-5 Seasonal	day	150	18	\$2,700	\$0		\$0		\$0	\$2,700
Chem/equipmt	dollars	600	1	\$600	\$0		\$0		\$0	\$600
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$4,040	\$0		\$0		\$0	\$4,040
B. Channel Treatments										
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road & Trails</i>				\$0	\$0		\$0		\$0	\$0
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Structures</i>				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
				\$2,000			\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				---	\$0		\$0		\$0	\$0
F. Monitoring										
				\$0						
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>				\$0	\$0		\$0		\$0	\$0
G. Totals				\$4,040	\$0		\$0		\$0	\$4,040
Previously approved										
Total for this request				\$4,040						

PART VII - APPROVALS

1. /s/David C. Whittekiend
Forest Supervisor (signature)

August 7, 2014
Date

2. /s/ Chris Iverson (for)
Regional Forester (signature)

August 14, 2014
Date