USDA-FOREST SERVICE FS-2500-8 (7/00)

Date of Report: 9/25/2005

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated WFSU-SULT funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation 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: Rattlesnake

B. Fire Number: PAB5V0

C. State: Idaho

D. County: Power

E. Region: R4-Intermountatin

F. Forest: Caribou-Targhee NF

G. District: Westside RD

H. Date Fire Started: 9-4-2005

I. Date Fire Contained: 9/12/2005

J. Suppression Cost: $3,362,955 – This is the cost of the Fort Hall Complex, which included both the Rattlesnake Fire and the Sawmill Fire. The Sawmill Fire did not burn any USFS Lands.

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): None known of on USFS Lands
2. Fireline seeded (miles): None known of on USFS Lands
3. Other (identify): None known of on USFS Lands

L. Watershed Number: On Forest –> 170402062003 and 170402062101 (Birch Creek and Midnight Creek – within the American Falls Subbasin)

M. Total Acres Burned: 10,731 acres
NFS Acres = 645; Other Federal = 2,218 (BLM) & 6,115 (BIA); State = 206; Private = 1,547

N. Vegetation Types: Soil Map Unit 475: Big sagebrush-grass interspersed with aspen/mountain brush. Map Unit 408: Big sagebrush and forb, with a few stands of aspen. Map Unit 304: Mosaic of aspen or conifer interspersed with mountain brush.

O. Dominant Soils: Map Unit 475 – Parkay – Starley – Farlow Families complex (30-50% slopes). Map Unit 408 – Parkay – Ridd – Mehlhorn Families complex (35-50% slopes). Map Unit 304 – Dranyon – Karlan – Red Spur Families complex (10-30% slopes).

Families: Parkay (475 & 408) – Loamy-skeletal, mixed Argic Pachic Cryoborolls
Starley (475) – Loamy-skeletal, mixed Lithic Cryoborolls
Farlow (475) – Loamy-skeletal, mixed Typic Cryoborolls
Ridd (408) – Loamy-skeletal, mixed Typic Argixerolls
Melhorn (408) – Fine-loamy, mixed, mesic Typic Argixerolls
Karlan (304) – Fine-loamy, mixed Pachic Cryoborolls
Dranyon (304) – Loamy, mixed, shallow Typic Cryoborolls
Red Spur (304) – Fine-loamy, mixed Cryic Pachic Paleborolls

P. Geologic Types: Map Unit 475 – Faulted upper Precambrian rocks of predominately quartzite with some slate, limestone, argillite, and siltite – colluvium parent material. Map Unit 408 – Upper Precambian quartzite, phyllite, argillite, limestone, sandstone, and some siltstone – colluvium parent material. Map Unit 304 – Gently to moderately sloping fluvial basins; mixed colluvium of quartzite and soft sedimentaries overlying Precambrian age limestone, quartzite, and sandstone.

Q. Miles of Stream Channels by Order or Class: 1.1 miles of intermittent stream (1st order) in northern most area on Forest. The burn area also borders approximately 1.5 miles of perennial stream on Forest (Midnight Creek – 0.3 miles of 3rd order and 1.2 miles of 2nd order).

R. Transportation System – Trails: The burn parallels about 1.5 miles of Trail 062 along Midnight Creek.
Roads: 0 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 120 (unburned) 525 (low) ___ (moderate) ___ (high)

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres): ___ (low) 595 (moderate) 50 (high)

Map Unit 475: Parkay & Farlow = Moderate; Starley = High
Map Unit 408: All families = Moderate
Map Unit 304: All families = Moderate

D. Erosion Potential: 0.5 tons/acre

E. Sediment Potential: 0.5 tons/acre = 270 cubic yards/mi^2

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	5 years
B. Design Chance of Success, (percent):	80%
C. Equivalent Design Recurrence Interval, (years):	N/A
D. Design Storm Duration, (hours):	N/A
E. Design Storm Magnitude, (inches):	N/A
F. Design Flow, (cubic feet / second/ square mile):	N/A - No Treatments
G. Estimated Reduction in Infiltration, (percent):	0-20% for the short-term
H. Adjusted Design Flow, (cfs per square mile):	N/A – No Treatments

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

- Threats to Ecosystem Integrity:
  Noxious and invasive weed infestations are a problem in portions of the burn area. Ecosystem integrity could be affected by an expected increase in noxious weeds due to the burn. Noxious weed species of concern are Canada Thistle and Yellow Toadflax. Invasive species of concern are Houds Tongue and Dyers Woad. Known populations of Canda Thistle, Yellow Toadflax, and Hounds Tongue occur in the burn area Known populations of Dyers Woad exist nearby in the Mink Creek draiange and the potential for spread into the burn area exists. The potenital for noxious and invasive species spread from BLM, BIA, and private lands onto the burned portions of the Forest also exists. Therefore, monitoring and treatment of noxious and invasive weed spread is recommended. If first-year monitoring/treatment indicates pre-fire weed concerns have been exacerbated by the fire, then aggressive control is recommended. Interim burned area reports will need to be submitted if control is necessary.

- Threats to Water Quality

  The majority of fire occurred downstream of Forest-Service lands. Both the BIA and the BLM have completed BAER Assessments. The BLM treatments include construction of rock check dams in several drainages and reconstruction of the boundary fence between BLM and USFS lands. Proposed BIA treatments include boundary fence reconstruction, spring protection/monitoring, culvert replacement & armoring, water quality monitoring, noxious weed monitoring, fence effectiveness monitoring, revegetation of the Rattlesnake Creek riparian area, CRP fence line construction, noxious weed suppression, and a temporary deferment fence for a cost of approximately $813,715.

  The Forest is expected to receive requests from the allotment permitee to increase the time cattle spend on Forest due to the BLM portions of the burn being rested from livestock grazing. Livestock do not generally use the areas on Forest that were burned. Therefore, the increasing the time livestock spend on Forest is not expected to increase risks to water quality directly within the burned area. However, additional control of livestock is needed to ensure that: 1) livestock do not use the burned area on Forest and 2) that over utilization does not occur as cattle displaced from burned BLM lands are allowed to graze longer on the Forest Service allotment. Two options were considered to address the grazing concerns: fencing and riding. Additional fencing within the allotment is not recommended due to the initial costs and the continual maintenance costs and responsibilities. Intensive riding of livestock is recommended a cost effective means of controlling livestock grazing.

- Threats to Life and Property

  No significant threats to life were identified immediately downstream of the Forest boundary. Thunderstorm related debris flow activity could occur in the area, which could pose a risk to people in the area at those times. The BIA BAER team did identify two homes, one in the vicinity of Crystal Creek and another on Midnight Creek, but the report did not identify significant threats to life or property.

  As document below, debris flows and floods have occurred in the Midnight Creek drainage. These flows have caused filling of a private pond with sediment and debris, deposition of material in pastures, and flooding on roadways in the area. The home of the land owner was not threaten however. As documented below however, the need for treatment on Forest is low as the majority of the burn occurred on BLM and privated lands located downstream of the Forest. The storms that have occurred are also estimated to be larger than what a choosen design storm would be.

Additional Water Quality and Soil Productivity Information:
Low burn severity and unburned areas were observed on USFS lands. Low burn severity was documented on the slope above Midnight Creek near its confluence with Pole Canyon (Figure 1 through Figure 3). The Midnight Creek area experienced a rain/hail storm event on 9/21/2005 (see Figure 13 for RAWS information – 0.4 inches precipitation in 1.5 hours). The small ephemeral drainage located northwest of the confluence of

Pole Canyon and Midnight Creek experienced a small debris flow, which delivered sediment and flood flows directly to Midnight Creek (Figure 4 through Figure 7).

Low burn severity was also observed in the northern most thumb of the burn. In fact, much of this area was not burned at all (Figure 8). Sprouting of grass was observed in a few locations (Figure 9).

Figure 1. Low burn severity on slope above Midnight Creek. Note the structure of organics was maintained and fine roots and seeds still exist in organic layer. (Photo 3)

Figure 2. Low burn severity. Note that brush skeletons were not consumed, indicating a low severity burn. (Photo 4).

Figure 3. Mosaic burn pattern on the hillside above Midnight Creek (photo 6)

Figure 4. Midnight Creek upstream of the confluence with the ephemeral draw. Note the high water mark indicated by the arrows is slightly above the current water level (photo 1).

Figure 5. Midnight Creek downstream of the ephemeral draw and debris flow. Note that high water mark from the flow event on 9/21/2005 is 1.5 -2 feet higher than the current water level (photo 13).

Figure 6. Deposits at the mouth of the ephemeral draw. (photo 16).

Figure 7. Midnight Creek downstream of the ephemeral draw. Note that high water mark indicated by arrows (photo 14).

Figure 8. Panoramic view of the drainage in the northern thumb of burn. Note the lack of burn in the drainage bottom (photos 20-22).

Figure 9. Sprouting in northern thumb. Note the organic matter structure, indicating a low burn severity (photo 23).

B. Emergency Treatment Objectives:

- Protect ecosystem integrity by controlling noxious and invasive weeds.
- Allow for recovery by controlling livestock use through riding.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land **95**% (Non-use or riding) Channel **N/A** % Roads **N/A** % Weeds **N/A** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Control of Livestock	95%	95%	95%
Channel	N/A	N/A	N/A
Roads	N/A	N/A	N/A
Weeds	70%	70%	70%

E. Cost of No-Action (Including Loss): $0.00. Not treating noxious weeds could reduce the ecological integrity of the plant communities, resulting losses to wildlife habitat and rangeland resources.

F. Cost of Selected Alternative (Including Loss): Year 1 - $6,915 for treatment, plus $1,425 for Assessment; Estimated Year 2 - $6,915; and Year 3 - $1,975.

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Brad Higginson, Hydrologist – Caribou-Targhee NF & Curlew NG

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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.)

Monitor & Treat Noxious and Invasive Weeds
General Description: Monitor known and high potential infestation sites for noxious and ivasive weeds.

Location (Suitable) Sites: Primarily along trails, in heavily used grazing areas, and along boundary with BLM and other lands.

Design/ Construction Specification(s):
1. Conduct short-term monitoring (up to three years) of noxious/invasive weed infestation into the burn area.
2. Monitoring and mapping protocols will be established and implemented by the District Rangeland Specialist.
3. All species identified as invasive according to the Forest Noxious Weed Management Plan should be assessed.
4. If year 1 work reveals significant populations of weeds that may pose threats to the ecological integrity of native plant communities, prepare supplemental funding requests in a timely manner to the Regional BAER Coordinator to facilitate the treatment of these areas. Prioritize treatments based on jurisdictional weed management plans.
5. If FY 2006 work reveals additional populations of noxious/invasive weeds as a result of the fire in areas not identified in this specification, prepare supplemental funding requests in a timely manner to the Regional BAER Coordinator to monitor these populations and determine if control measures are necessary.
6. If year 2 and year 3 monitoring is warranted, prepare supplemental funding requests in a timely manner, in those years respectively, to the Regional BAER Coordinator to monitor these populations and determine if control measures are necessary

Purpose of Treatment Specifications: The objective of this specification is to identify/treat the spread and potential threat of weed infestation in the burn area. Data gathered will be used to facilitate prompt treatment to control weed populations for the purpose of protecting native plant diversity and ecological integrity of the plant communities in the burn area.

Cost:

Description	Cost
The District Rangeland Specialist shall make one trip in early May and a final inspection in September of 2006. ($225/day X 2 days = $675)	$450
Use of USFS Vehicles ($20/trip X 4 trips)	$80
Chemicals and Equipment for Treatment	$500
Weed Crew ($180/day/person X 2 people X 2 days)	$720
One day to write-up summary report ($225/day)	$225
Treatment Cost for FY 2006 =	**$1,975**
Estimated Treatment Cost for FY 2007 =	**$1,975**
Estimated Treatment Cost for FY 2007 =	**$1,975**

Control of Livestock Grazing
The BLM portions of the burn will be rested from livestock grazing and the Forest allotment is proposed to be used longer to offset impacts. In order to prevent livestock use of the burned areas within the Forest Service allotment, and also to ensure compliance with grazing standards throughout the allotment, an intensive riding treatment is recommended due to the increased time livestock would spend in the allotment. A range rider is required for 60 days to protect the new vegetation on a range allotment. Other treatments examined included additional temporary fence and removing cattle. The cost of fence and maintenance responsibility exceed the cost of riding. The removal of livestock is unwarranted due to the fact that only a small percentage of the Forest Service allotment burned.

An ID team (rangeland specialist, hydrologist, and soil scientist) shall visit the allotment prior to grazing in order to ensure compliance with the following Revised Forest Plan Standard: “Livestock grazing shall be

restricted following prescribed or natural fire and/or rangeland planting or seeding before seed set of the second growing season, or until the objectives of the treatment are achieved." The team shall determine if grazing with riding criteria should occur in the 2006 season or if it should be deffered until 2007. It is not expected that cattle would use much of the area that burned due to steep slopes and lack of water.

Cost:

Description	Cost
Range ID Team Review (Rangeland Specialist, Hydrologist, & Soil Scientist) for pre-grazing season visit (3 people X 1 Day X $225/ day)	$675
Use of USFS Vehicles ($40 trip)	$40
One Day to monitor permitee riding to control livestock ($225/day)	$225
Range Rider for 2 months	$4,000
Total Treatment Cost for FY 2006 =	**$4,940**

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.)

See treatment descriptions above. Aside from the monitoring specified within the treatments, no additional monitoring is proposed.

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

			NFS Lands					Other Lands			All
		Unit	# of	WFSU	Other		# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$		units	$	Units	$	$
A. Land Treatments											
Control Livestock Use	1	$940	1	$4,940	$0			$0		$0	$4,940
Monitor/Treat Noxious Weeds	1 yr	$1,460	1	$1,975	$0			$0		$0	$1,975
Subtotal Land Treatments				$6,915	$0			$0		$0	$6,915
B. Channel Treatments											
				$0	$0			$0		$0	$0
Subtotal Channel Treat.				$0	$0			$0		$0	$0
C. Road and Trails											
				$0	$0			$0		$0	$0
Subtotal Road & Trails				$0	$0			$0		$0	$0
D. Structures											
				$0	$0			$0		$0	$0
Subtotal Structures				$0	$0			$0		$0	$0
E. BAER Evaluation											
Personnel	1	$1,425	1	$1,425	$0			$0		$0	$1,425
Subtotal Evaluation				$1,425	$0			$0		$0	$1,425
F. Monitoring											
				$0	$0			$0		$0	$0
Subtotal Monitoring				$0	$0			$0		$0	$0
G. Totals				**$8,340**	**$0**			**$0**		**$0**	**$8,340**

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date

Figure 10. Final map of burn perimeter.

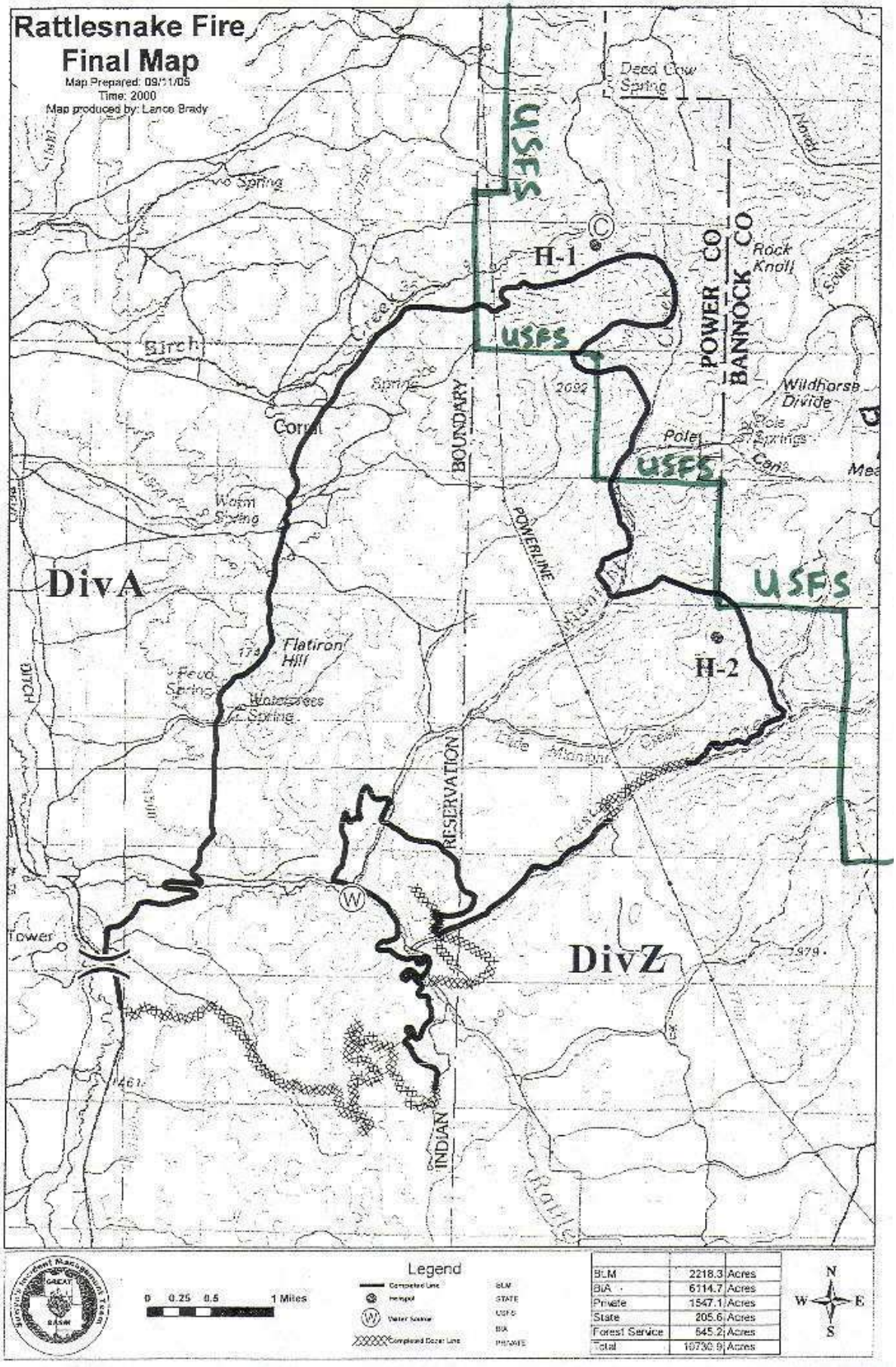


Figure 11. Map of burn perimeter (on Forest only), GPS points, photo points, and Sixth-Level Hydrological Unit Boundaries.

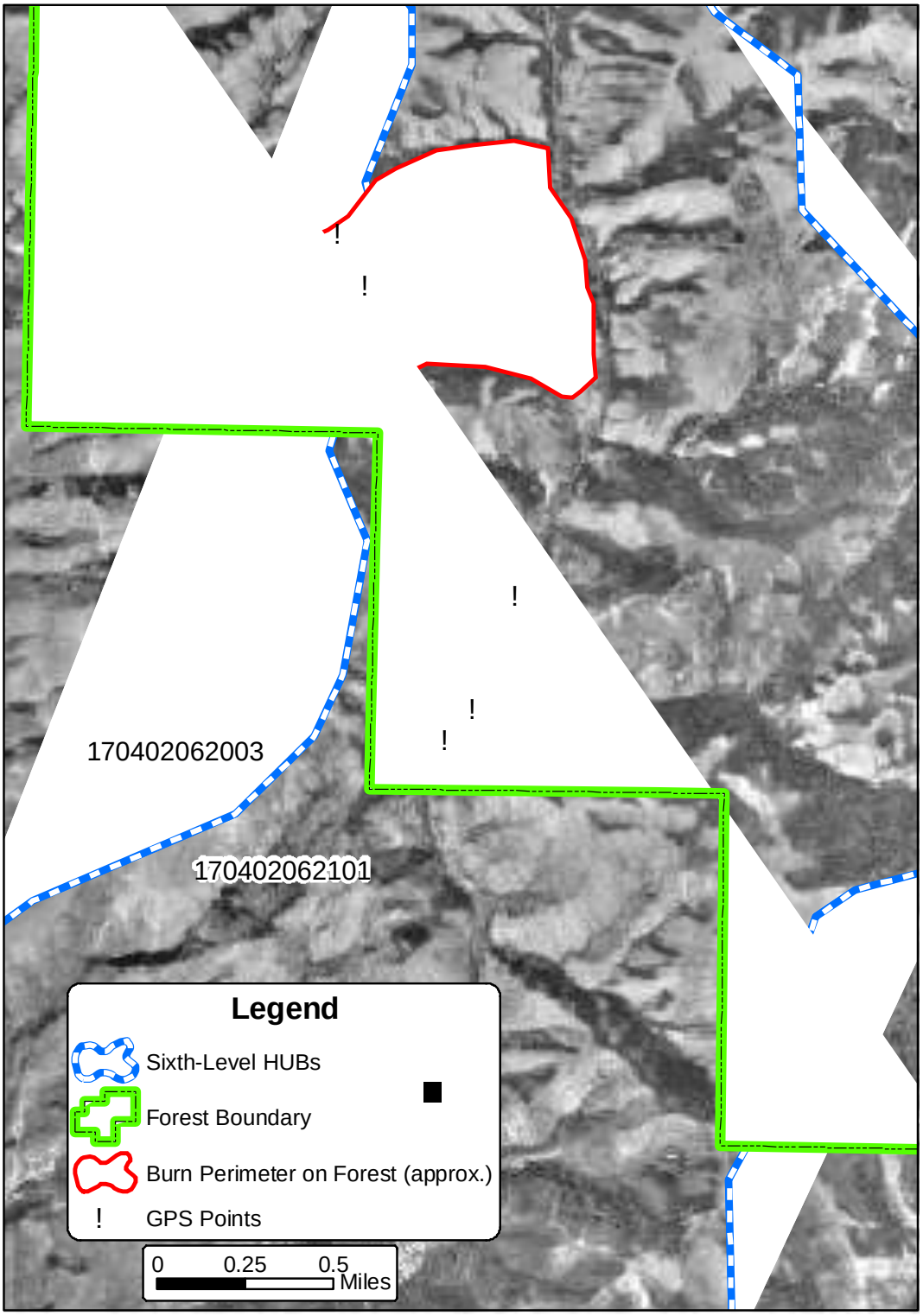


Figure 12. Thumbnails of photographs.

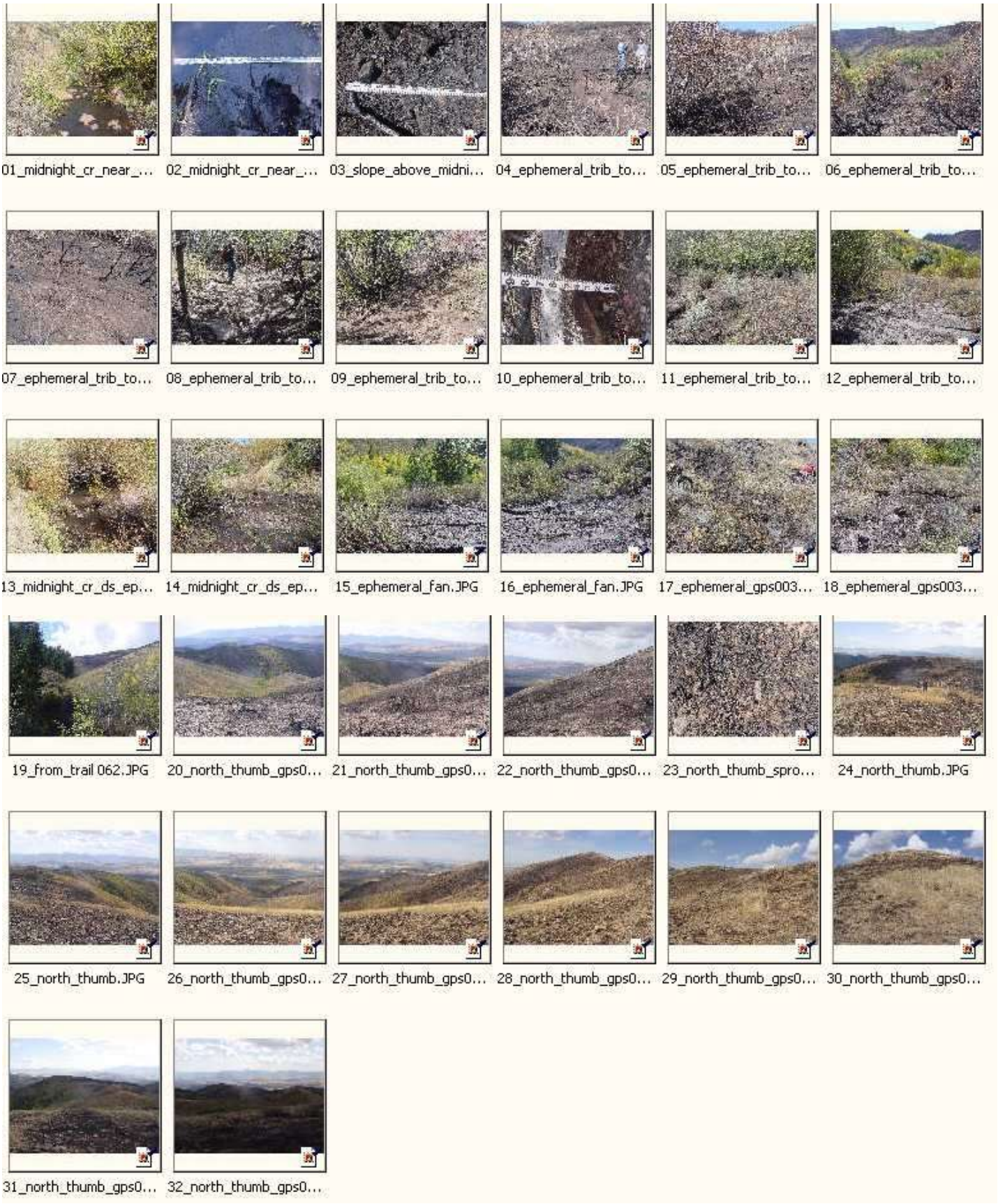
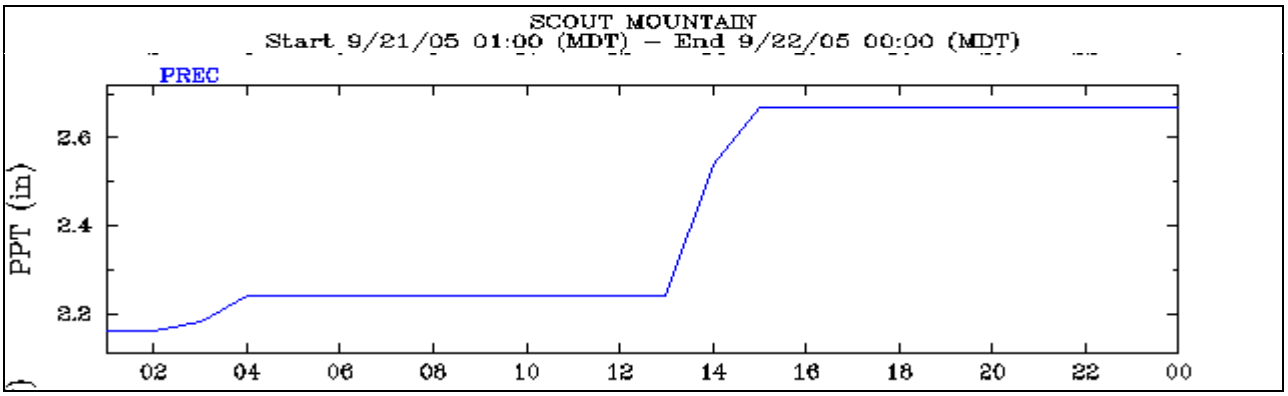


Figure 13. Scout Mountain RAWS for 9/21/2005. The storm on that day caused flooding in a ephemeral tributary and in Midnight Creek.



Precipitation Frequency Data Output

NOAA Atlas 2
Idaho 42.77°N 112.52°W
Site-specific Estimates

Map	Precipitation (inches)	Precipitation Intensity (in/hr)
2-year 6-hour	0.83	0.14
2-year 24-hour	1.25	0.05
100-year 6-hour	1.90	0.32
100-year 24-hour	2.83	0.12