

USDA-FOREST SERVICE

Date of Report: October 4, 1994

BURNED-AREA REPORT
(Reference FSH 2509.13)
Rabbit Creek Fire
Nonwilderness, Boise National Forest Portion

PART I - TYPE OF REQUEST

A. Type of Report

- ☒ 1. Funding request for estimated EFFS-FW22 funds
☐ 2. Accomplishment Report
☐ 3. No Treatment Recommendation

B. Type of Action

- ☒ 1. Initial Request (best estimate of funds needed to complete eligible rehabilitation measures)

Funding request based on two-thirds of fire area

☐ 2. Interim Report
 ☐ Updating the initial funding request based on more accurate site data and design analysis
 ☐ Status of accomplishments to date

☐ 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

- A. Fire Name: Rabbit Creek Fire B. Fire Number: IDBOF165
C. State: Idaho D. County: Boise and Elmore
E. Region: Intermountain R-4 F. Forest: Boise and Sawtooth
G. District: Idaho City and Lowman Ranger Districts, and Sawtooth NRA
H. Date Fire Started: July 28, 1994 I. Date Fire Controlled: (contained)
September 22, 1994

Note: The date for control has been delayed pending predicted weather conditions. The fire is 100 percent contained.

- J. Suppression Cost: \$45,700,000 (as of this date)
K. Fire Suppression Damages Repaired with EFFS-PF12 Funds:
1. Fireline waterbarred (miles) 110 miles 25 miles hand,
 85 miles cat line. Also cleaned out 15 creek crossings and
 waterbarred 50 safety zones.
2. Fireline seeded (miles) 110 proposed, not yet seeded
3. Other (identify) _____

L. Watershed Number: 17050111-21 through 25

M. NFS Acres Burned: 94,880 * Total Acres Burned: 154,100

* This initial report considers 94,880 acres of the total 154,100 acres of fire area. The entire fire is NFS lands.

N. Vegetation Types: 36%-Brush, Doug-fir, P.Pine, Aspen 25%-Doug-fir, P.Pine open
22%-Doug-fir, P.Pine moderate 13%-Doug-fir, P.Pine dense
4% Brush, Grass, and Barren areas.

O. Dominant Soils: Typic Cryorthents, Typic Xerumbrepts, Lithic Xerumbrepts,
Typic Cryumbrepts, Typic Haplumbrepts, Typic Xerorthents,
Lithic Xerorthents, Eutric Glossoboralfs

P. Geologic Types: Idaho batholith

Q. Miles of Stream Channels by Order or Class:

1st order: 1,109 miles 2nd order: 309 miles
3rd order: 249 miles 4th order: 120 miles 5th order: 24 miles

R. Transportation System:

Trails: 73 miles Roads: 770 miles

PART III - WATERSHED CONDITION

A. Fire Intensity (acres): 49,749 (low) 19,708 (moderate) 22,069 (high)
(52%) (21%) (23%)
3354 (unburned in fire perimeter)
(4%)

B. Water-Repellent Soil (acres): 4,970 (low) 5,912 (moderate)
(by burn intensity) 14,754 (high) 25,636 (total acres)

C. Soil Erosion Hazard Rating (acres):
3047 (low) 9525 (moderate) 82,308 (high)

D. Erosion Potential: 22.6 tons/acre

E. Sediment Potential: 2306 cubic yards/square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 3-5 years

Note: Portions of the burned area will recover to 50% soil cover within 2 to 3 years. Experience with previous fires on the Forest leads us to believe that without treatments, high elevation basins will take significantly longer.

B. Design Chance of Success: 80 percent

C. Equivalent Design Recurrence Interval: 25 years

D. Design Storm Duration: 24 hours

- E. Design Storm Magnitude: 4 inches
- F. Design Flow: 50 cubic feet per second per square mile
- G. Estimated Reduction in Infiltration: 85 percent
- H. Adjusted Design Flow: 500 cubic feet per second per square mile

PART V - SUMMARY OF ANALYSIS

A. DESCRIBE WATERSHED EMERGENCY

Based on the BAER team field survey and analysis, the following emergencies exist as per FSH 2509.13:

A total of 154,100 acres were burned in the Rabbit Creek fire, all on National Forest System land. This initial report analyzes 94,880 acres of the fire including Bear River, Dear Park, Crooked River, Rabbit Creek and Meadow Creek watersheds. The northern portion of the fire is not covered in this report. It includes portions of the North Fork Boise River and the South Fork Payette River and drainages most of which are in proposed wilderness and the Sawtooth Wilderness, Sawtooth National Forest.

1. Loss of Soil and Onsite Productivity

About 87 percent (82,308 acres) of the burned NFS lands evaluated in this report have a high erosion hazard rating. Hydrophobic soils occur on 28 percent of NFS lands burned (25,636 acres). About 44 percent (41,777 acres) of the fire area burned at moderate to high intensities, eliminating effective ground cover. The average soil loss over the Forest Service land in the burn area is expected to be approximately 22.6 tons per acre during the first two years. This greatly exceeds the approximated annual rate of soil formation. There is a high concern that soil productivity due to accelerated soil erosion from high and moderate burn intensities on 44 percent of the area could be significantly reduced as a result of the fire. Reductions in soil productivity will significantly impact commercial timber production and other resource uses. The value of soil and productivity losses is estimated at \$25 per ton for a total at risk value of \$28.7 million.

2. Loss of Water Control and Deterioration of Water Quality

The watersheds in the burned area have a high potential for increased sedimentation and its adverse effects on water quality. Potential for long-term and short-term sediment related damage exists as a result of the fire. There are numerous perennial streams within the evaluated watersheds. The beneficial uses of these creeks include salmonid fisheries and TES bull trout "key watershed" (valued at \$2.5 million), livestock watering, and recreational uses at campgrounds, picnic areas, fishing, and sightseeing. These streams provide a cold water source for salmonid fisheries and bull trout habitat over numerous drainages including the North Fork of the Boise River. They also provide water to Arrowrock Reservoir which serves as a major recreational area for the Treasure Valley, flood control, irrigation, and hydroelectric power generation. Impacts to the reservoir includes contributions of sediment which would reduce storage, increases in nutrients affecting vegetation and weed management in downstream irrigation systems, and impacts to reservoir recreational uses.

3. Threats to Human Life and Property Onsite and Offsite

Aerial and field observations were conducted to determine potential threats to life and property from increased flood and debris torrents associated with the post fire watershed condition. There were no direct concerns to any of the Forest Service building facilities or established campgrounds. The one special-use cabin located adjacent to the North Fork of the Boise River at Deer Park has a slight potential for damage resulting from a large scale debris blockage in the upstream canyon with a sudden breach which could result in loss of the facility. The remaining facilities at Deer Park, Black Rock campground and Barber Flat are not in imminent danger. There is a concern for the numerous dispersed campsites adjacent to or directly below drainage ways (0-3rd order drainages) which are susceptible to debris torrents/mudflows. Numerous small debris torrents/mud slides have occurred as a result of a light to moderate intensity storm on September 29, 1994. Two of these have blocked the North Fork Boise River road 327 and blocked two-thirds of the North Fork Boise River with an alluvial fan.

While past recreation use in the area was over 10,000 RVD's per year, use during the first few years following the fire is projected at approximately 3,600 recreation visitor days annually. Often times recreationists or forest workers may not be aware of the potential flood threat as the lower watershed may be unburned while the upper watershed was burned at moderate to high intensities. There are also over 700 miles of roads of which over 400 are system roads which present a large concern with the vehicles driving these roads.

There are about 73 miles of trails in the evaluated watersheds. About 16.1 miles of these trails have a high probability of being washed out due to increased flows from the burned area. The trails at risk are valued at approximately \$341,300.

There are 770 miles of roads in the burned area. Of this total, 477 miles are Forest Service system roads. System roads include 75 miles of maintenance class 1 roads, 356.2 miles of class 2 roads, and 45.7 miles of class 3 roads. Of these, 150 miles have been identified as at risk from increased runoff events (98 miles of insloped and 52 miles of outsloped roads. The value of these NFS roads at risk is estimated at approximately \$7.4 million.

These roads and trails will act as collectors for increased overland flows. Damage will be compounded where existing culverts and other drainage structures are inadequate to handle increased flows and debris. The failure of these drainage systems may also trigger debris torrents in drainages below the roads and trails. To protect the road and trail network, treatments are needed on approximately 150 miles of road segments, 9 miles of trails, and 30 trail drainage crossings.

B. Emergency Treatment Objectives

To address the above emergencies identified by the BAER team, the following objectives were identified:

Provide for the protection of life and property (structures, roads, trails, etc.) within the burn, and potential downstream impact areas using a variety of land, channel, road, and slope stability treatments which have been demonstrated to be effective in similar burned areas (see narrative treatments).

Provide information to general and specific publics and Forest users about the potential threats to life and property.

Retain soil onsite to maintain the long-term productivity of the ecosystem, minimize degradation of water quality and related beneficial uses, and maintain control of water by using a variety of land, channel, road, and slope stability treatments which have been demonstrated effective in similar burned areas (see narrative treatments).

Provide relevant information collected in this process to land owners and other State and Federal agencies which are involved in related activities on State and private lands burned in the Rabbit Creek Fire.

C. Probability of completing treatment prior to the first damage producing storm

Land 60 percent Channel 80 percent Roads 75 percent Other _____ percent

(Assuming that spring snow melt is the first major damage producing event.)

D. Probability of Treatment Success

	<----Years after treatment---->		
	1	3	5
Land	65 percent	85 percent	95 percent
Channel	75 percent	85 percent	100 percent
Roads	80 percent	90 percent	100 percent
Other			

E. Cost of No-Action (Including Loss): \$ 39,193,436

F. Cost of Selected Alternative (Including Loss): \$ 28,585,097

G. Skills Represented on Burned-Area Survey Team

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Range	<input checked="" type="checkbox"/> Fisheries
<input checked="" type="checkbox"/> Timber	<input checked="" type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input checked="" type="checkbox"/> Plant Mtls	<input checked="" type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Recreation	<input checked="" type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> S.C.S.	<input checked="" type="checkbox"/> State Lands	<input checked="" type="checkbox"/> IDFG	<input checked="" type="checkbox"/> FS Research
<input checked="" type="checkbox"/> Contracting	<input checked="" type="checkbox"/> TES	<input checked="" type="checkbox"/> Botony	<input checked="" type="checkbox"/> Incident Command

Incident Commander: Terry Sexton

Phone: 208-364-4330

DG Address: T.Sexton:R04F02D03A

Team Leaders: John Thornton & Monte Williams

H. Treatment Narrative

Land Treatments

Contour felling. Trees will be dropped along slope contours (less than 70 percent slopes) in order to trap eroded material and decrease hydraulic slope length which reduces the erosional energies of the water. Additional benefits occur with the breakup of the water repellant soil layer due to the trenching of the soil for the installation of the contour felled logs. This serves as a "sink" for the water to infiltrate to the subsoil thereby reducing the volume of runoff. Trees should be 8 to 12 inches in diameter at the largest end and 30 feet in length with 45 trees per acre. Treatment costs are estimated at \$200 per acre. 32,000 acres will be treated using this method (\$6.4 million).

Seeding. A significant portion of the burned acres will not recover to 50 percent ground cover density in the next two years under natural vegetative recovery conditions. Some areas of the fire may not recover for up to five years. Areas treated in high drainage basins with high burn intensity/severity in the County Line Fire and Foothills Fire in 1992 show very little recovery to date.

Natural recovery will be augmented through the aerial seeding of native perennial grass cultivars. Seed will be applied for spring germination at the rate of approximately 15 pure live seed per acre at an estimated cost of \$20 per acre. 19,100 acres of high and moderate intensity/severity burned areas are proposed for treatment at a total cost of \$382,000.

Application rates and species selected were determined based on criteria including cost, availability, and potential competition with the recovery of native vegetation including conifer regeneration (natural and plantation).

"NATIVE" CULTIVAR MIX"

RATE lbs/ac

Bromar Mountain Brome	<u>Bromus marginatus</u>	1 lbs PLS
Pryor Slender Wheatgrass	<u>Agrophyron trachycaulum</u>	1 lbs PLS
Critana Thickspike Wheatgrass	<u>Agrophyron dasystachum</u>	1 lbs PLS
Goldar Bluebunch Wheatgrass	<u>Agrophyron spicatum</u>	1 lbs PLS
Total:		4 lbs PLS

Note: This application rate and mix would give a total of 15.6 pure live seed (PLS) per square foot. This is a lower application rate than is normally used for aerial seedings. The lower rate is designed to reduce conflicts with conifer regeneration/plantations and to augment recovery of native species on nontimber sites. The cost of the seed mix is estimated at \$3 per pound or \$12 per acre. Application costs are estimated at \$8 per acre for a total cost of \$20 per acre.

Alternates

Sodar Streambank Wheatgrass	<u>Agrophyron riparium</u>
Goldar Bluebunch Wheatgrass	<u>Agrophyron spicatum</u>
Secar Bluebunch Wheatgrass	<u>Agrophyron spicatum</u>
Whitmar Bluebunch Wheatgrass	<u>Agrophyron inerme</u>
Rosanna Western Wheatgrass	<u>Agrophyron smithii</u>
Covar or Durar Sheep Fescue	<u>Festuca ovina</u>

Seeds per Square Foot at 1 Pound per Acre Application Rate

<u>CULTIVAR</u>	<u>SEED/SQ. FOOT</u> (at 1 lb/acre)
Bromar Mountain Brome	2.1
Pryor Slender Wheatgrass	3.6
Critana Thickspike Wheatgrass	3.5
Sodar Streambank Wheatgrass	3.6
Goldar Bluebunch Wheatgrass	3.2
Covar or Durar Sheep Fescue	15.6

Seed mixes will be noxious weed seed free in accordance with noxious weed laws for the State of Idaho. Seed batches for each seed mix must have been tested and labeled prior to purchase for purity, germination, and weed seed content. Germination tests shall be no more than six months old from date of delivery. Seed batches will be tested upon receipt by the Idaho Seed Lab. Acceptability and payment will be based on pure live seed content, purity and weed content tests from the Idaho Seed Lab.

Channel Treatments

Base level control. These structures are a second line of defense with four objectives (in order of priority): (1) to reduce stream down cutting, (2) to reduce instantaneous peak runoff by routing through small basins, (3) to protect culverts, and (4) to act as small sediment reservoirs (approximate capacity is 10 cubic yards per structure).

These structures may be constructed from adjacent logs or straw bales, constructed and placed appropriately in zero and first order stream channels. The criteria for treatment is as follows: 0 to first order channels; less than 15 percent channel bottom gradient; located in or directly downstream from moderate to high burn intensity/severity areas; approximately 1 structure per 100 feet of channel length (52/mile). Installation specifications will be detailed in the contracts.

Most of the fire burned in areas too steep for channel structures to be effective. Areas where use of these structures are needed have been identified on field maps. The total number of miles of stream to be treated is 5.5 miles (286 structures). Construction costs are estimated at \$175 per structure (\$50,050).

Transportation System Treatments

Roads. The value of the roads and the potential increase in sediment load created by fill failures, stream routing down inside ditches and eventual blowouts into new channels, as well as the loss of service roads make treatments to ensure road drainage and protection of crossings a critical treatment. Accelerated runoff, due to the newly formed hydrophobic layers and bare surfaces, put culverts and existing road drainage at risk. The mechanism of road failure from overflow conditions is typically debris blockage of culverts or other drainage structures and increased peak runoff due to hydrophobic soils and loss of ground cover. This allows waterflows to generate enough volume and velocity to erode the roadway at drainage crossings, ditch lines, or road surface. Treatment prescriptions are designed to alter the structure of the road, or the drainage system to prevent this occurrence.

Treatment strategies have been developed to address inslope (98 miles) and outslope (52 miles) drainage needs. These prescriptions include: (1) culvert efficiency improvements, including catch basin enlargement, outlet riprapping and installation of flow velocity reduction and dispersal structures; (2) overflow drainage dip installation; (3) road surface rut removal and blading; (4) overflow culvert installation; (5) culvert replacement; and (6) trash rack installation. Inslope prescription costs are estimated at \$2,500 per mile (\$245,000). Outslope prescription costs are estimated at \$1,500 per mile (\$78,000). Additional structure costs (items 4-6) are estimated at \$57,000. A 15 percent contract cost overrun allowance of \$57,000 brings total road treatment costs to \$440,000.

Trails. There are approximately 73 miles of recreation trails in the burned area. About 16.1 of these miles are subject to extreme erosion. In a flood event, it is likely that they would be significantly eroded requiring replacement. Without treatment, they would concentrate overland flows and contribute to increasing sediment discharges and soil productivity losses. Improving drainage would protect the trail and significantly reduce sedimentation. Drainage improvement would include construction of water bars and placement of cribbing. Approximately 8 miles of trail and 32 stream crossings would need to be treated at a cost of approximately \$80,000.

Other Treatments

Livestock Grazing Controls. The Forest will establish recovery criteria which will be met before livestock grazing will be allowed on the burned area. Sheep will be excluded from the burned area until recovery criteria are met. The permittee may be required to take nonuse for resource protection on grazing allotments until the criteria are met or relocate sheep use to the Sand Creek or other Forest allotments in vacant or nonuse status. The criteria may include measurements of soil cover, riparian vegetation recovery, seeding establishment, impacts to conifer regeneration, etc. Grazing management strategies and trailing routes may also need be altered at least in the short-term once grazing resumes. Protection fencing will not be required.

Timber Salvage Lop-and-Scatter Requirement. Where salvage sale logging is approved in the burn area, contractors will be required to lop-and-scatter slash. This will help increase soil cover, reduce microsite soil temperatures which inhibit seedling germination and establishment, break up overland flow energy, and reduce surface erosion.

Timber Salvage - BAER Treatment Coordination. BAER treatments and structures destroyed or damaged during harvest actions will be repaired or replaced in a timely manner. Sale contract clauses will be established to ensure that this occurs.

Mud and Flood Patrols. Given the identified risks in the burn area, and the potential for plugged culverts, etc, the patrol would be used to identify problems needing immediate treatment. Backhoes or other equipment would need to be available to respond to these situations. Cost for this activity is estimated at \$16,000.

PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERSHIP

Line Items	NFS Lands				Other Lands		All		
	Units	Unit Cost \$	Number of Units	EFFS-FW22 \$M	Other \$	Number of Units	Fed \$	Non-Fed \$	To
					ident.		ident.	ident.	

A. LAND TREATMENTS

Contour Felling	acres	200	32,000	\$ 6,400					
Aerial Seeding	acres	20	19,000	\$ 382					

6782 000

B. CHANNEL TREATMENTS

Base level structures	each	175	286	\$ 50					
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C. ROADS AND TRAILS

Inslope Road Prescription	miles	98	2500	\$ 245					
Outslope Rd. Prescription	miles	52	1500	\$ 78					
Other Rd. Costs *				\$ 60					
Contract Cost Overrun		15 percent		\$ 57					
Trail Prescription	miles	8	5710	\$ 46					
Trail Crossing Treatment	each	32	1050	\$ 34					

463 000

D. SAFETY

Mud & Flood Patrol				\$ 16					
Hazard ID and Signing				\$ 9					

25 000

E. BAER EVALUATION / ADMINISTRATIVE SUPPORT

Interdisciplinary Team				\$ 150					
Implementation Admin.				\$ 950					

1100000

F. TOTALS				\$ 8,452					
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* Includes overflow culvert installation, culvert replacement and trash rack installation activities in addition to drainage prescription.

COST-RISK ANALYSIS OF BURNED-AREA REHAB. TREATMENTS

FIRE: Rabbit Creek, Boise National Forest, 1994

DATE: 10/04/94

ALTERNATIVE: High Probability Alternative - (selected alternative)

.....
PRIMARY TREATMENT. PROBABILITY OF (A) SUCCESS 80 percent
(B) FAILURE 20 percent

Treatments	Units	Amount	Unit Cost	Total Cost
-----	-----	-----	-----	-----
1. Admin and IDT Costs				\$1,100,000
2. Trails	miles	8.0	\$0	\$80,000
3. Roads	miles	150.0	\$0	\$440,000
4. Contour Felling	acres	32000.0	\$200	\$6,400,000
5. Channel Structures	each	286.0	\$175	\$50,050
6. Safety				\$25
7. Seeding	acres	19100.0	\$20	\$382,000
				=====
	(C) Total =			\$8,452,075

PROBABLE RESOURCE VALUE LOSS

Item	---Probable Dollar Loss---	
-----	(D) Success	(E) Failure
-----	-----	-----
1. Soil Productivity	\$14,623,600	\$28,737,000
2. Road System	\$0	\$7,440,000
3. Fisheries (downstream value	\$741,100	\$2,525,136
4. Recreation Trails	\$20,637	\$341,301
	=====	=====
Total =	\$15,385,337	\$39,043,437

.....
FALLBACK TREATMENT. PROBABILITY OF (F) SUCCESS 0 percent
N/A (G) FAILURE 0 percent

Treatments	Units	Amount	Unit Cost	Total Cost
-----	-----	-----	-----	-----
1.		0.0	\$0	\$0
2.		0.0	\$0	\$0
3.		0.0	\$0	\$0
4.		0.0	\$0	\$0
				=====
	(H) Total =			\$0

PROBABLE RESOURCE VALUE LOSS

Item	---Probable Dollar Loss---	
-----	(I) Success	(J) Failure
-----	-----	-----
1.	\$0	\$0
2.	\$0	\$0
3.	\$0	\$0
4.	\$0	\$0
	=====	=====
Total =	\$0	\$0

TOTAL ALTERNATIVE COST = \$28,569,032

COST-RISK ANALYSIS OF BURNED-AREA REHAB. TREATMENTS

FIRE: Rabbit Creek, Boise National Forest, 1994

DATE: 10/04/94

ALTERNATIVE: No Action Alternative - South Analysis Unit

.....
 PRIMARY TREATMENT. PROBABILITY OF (A) SUCCESS 100 percent
 (B) FAILURE 0 percent

Treatments	Units	Amount	Unit Cost	Total Cost
-----	-----	-----	-----	-----
1. Admin and IDT Costs				\$150,000
2. Trails	miles	0.0	\$2,500	\$0
3. Roads	miles	0.0	\$1,500	\$0
4. Contour Felling	acres	0.0	\$200	\$0
5. Channel Structures	each	0.0	\$140	\$0
6. Safety		0.0	\$0	\$0
7 Seeding	acres	0.0	\$20	\$0
				=====
	(C) Total =			\$150,000

PROBABLE RESOURCE VALUE LOSS

Item	---Probable Dollar Loss---	
	(D) Success	(E) Failure
-----	-----	-----
1. Soil Productivity	\$28,737,000	\$0
2. Transportaion System	\$7,440,000	\$0
3. Fisheries (downstream value	\$2,525,136	\$0
4. Recreation Trails	\$341,300	\$0
5. Private Property	\$0	\$0
	=====	=====
Total =	\$39,043,436	\$0

.....
 FALLBACK TREATMENT. PROBABILITY OF (F) SUCCESS 0 percent
 N/A (G) FAILURE 0 percent

Treatments	Units	Amount	Unit Cost	Total Cost
-----	-----	-----	-----	-----
1.		0.0	\$0	\$0
2.		0.0	\$0	\$0
3.		0.0	\$0	\$0
4.		0.0	\$0	\$0
				=====
	(H) Total =			\$0

PROBABLE RESOURCE VALUE LOSS

Item	---Probable Dollar Loss---	
	(I) Success	(J) Failure
-----	-----	-----
1.	\$0	\$0
2.	\$0	\$0
3.	\$0	\$0
4.	\$0	\$0
	=====	=====
Total =	\$0	\$0

TOTAL ALTERNATIVE COST = \$39,193,436

USDA-FOREST SERVICE

Date of Report: October 4, 1994

BURNED-AREA REPORT
(Reference FSH 2509.13)
Rabbit Creek Fire

PART VII - APPROVALS

1. /s/ Rich Christensen 10/04/94
for Cathy Barbouletos Date
Acting Forest Supervisor

2. _____
Dale N. Bosworth Date
Regional Forester

COST-RISK ANALYSIS OF BURNED-AREA REHAB. TREATMENTS

FIRE: Rabbit Creek, Boise National Forest, 1994

DATE: 10/04/94

ALTERNATIVE: Moderate Probability Alternative - (not selected)

.....
PRIMARY TREATMENT. PROBABILITY OF (A) SUCCESS 60 percent
(B) FAILURE 40 percent

Treatments	Units	Amount	Unit Cost	Total Cost
-----	-----	-----	-----	-----
1. Admin and IDT Costs				\$773,000
2. Trails	miles	7.0	\$0	\$65,470
3. Roads	miles	150.0	\$0	\$440,000
4. Contour Felling	acres	23000.0	\$200	\$4,600,000
5. Channel Structures	each	286.0	\$175	\$50,050
6. Safety				\$25,000
				=====
	(C) Total =			\$5,953,520

PROBABLE RESOURCE VALUE LOSS

Item	---Probable Dollar Loss---	
	(D) Success	(E) Failure
-----	-----	-----
1. Soil Productivity	\$19,004,175	\$28,737,000
2. Road System	\$0	\$7,440,000
3. Fisheries (downstream value	\$1,010,054	\$2,525,136
4. Recreation Trails	\$82,547	\$341,301
	=====	=====
Total =	\$20,096,776	\$39,043,437

.....
FALLBACK TREATMENT. PROBABILITY OF (F) SUCCESS 0 percent
N/A (G) FAILURE 0 percent

Treatments	Units	Amount	Unit Cost	Total Cost
-----	-----	-----	-----	-----
1.		0.0	\$0	\$0
2.		0.0	\$0	\$0
3.		0.0	\$0	\$0
4.		0.0	\$0	\$0
				=====
	(H) Total =			\$0

PROBABLE RESOURCE VALUE LOSS

Item	---Probable Dollar Loss---	
	(I) Success	(J) Failure
-----	-----	-----
1.	\$0	\$0
2.	\$0	\$0
3.	\$0	\$0
4.	\$0	\$0
	=====	=====
Total =	\$0	\$0

TOTAL ALTERNATIVE COST = \$33,628,960