

September 25, 2014

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- ☒ 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)
☐ 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: Silverado B. Fire Number: CA- CNF-002873
C. State: California D. County: Orange
E. Region: 5 F. Forest: Cleveland
G. District: Trabuco H. Fire Incident Job Code: P5JD9G
I. Date Fire Started: 9/12/2014 J. Date Fire Contained: 9/20/2014
K. Suppression Cost: \$5,000,000
L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 6 dozer, 5 handline
2. Fireline seeded (miles): none
M. Watershed Numbers- NFS lands: Santiago/Silverado Cyn 180702030802
N. Total Acres Burned: 960
NFS Acres (935) Other Federal- BLM () State () Private (25)

O. Vegetation Types Chamise Chaparral, Mixed Montane Chaparral, Coastal Sage Scrub, Coast Live Oak Woodland

P. Dominant Soils - Friant (thermic Lithic Haploxeroils)

Q. Geologic Types: metasedimentary

R. Miles of Stream Channels by Order or Class: Intermittent 4 Perennial 0

S. Transportation System (NFS lands only)

Trails: 3 miles Roads: 3 miles

PART III - WATERSHED CONDITION

A. Burn Severity: 563 (unburned/low) 396 (moderate) 1 (high)

B. Water-Repellent Soil (acres): 393 acres

C. Soil Erosion Hazard Rating (acres):
0 (low) 22 (moderate) 938 (high)

D. Erosion Potential: 24.9 tons/acre

E. Sediment Potential: 12,739 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3 to 5

B. Design Chance of Success, (percent): 95

C. Equivalent Design Recurrence Interval, (years): 2

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 3.73

F. Design Flow, (cubic feet / second/ square mile): 30

G. Estimated Reduction in Infiltration, (percent): 42%

H. Adjusted Design Flow, (cfs per square mile): 305

PART V - SUMMARY OF ANALYSIS

A. Critical Values/Resources and Threats

The following table summarizes values at risk and emergency determinations identified by the BAER Assessment team. The Specialist Reports, available in the project file, provide detailed descriptions of threats and emergency conditions for values at risk in the burned area.

Summary of Values at Risk and Emergency Determinations.

Values at Risk	Threat	Determination/Comments
Life and Public Safety		
Residents of Silverado Cyn	Potential for loss of life due to increased water flows and erosion from high severity burn areas.	Emergency exists
Property		
Private homes, Silverado Cyn	Potential for damage to houses due to increased water flows and erosion from high severity burn areas.	Emergency exists
County Road, Silverado Cyn	Potential for damage to road due to increased water flows and erosion from high severity burn areas.	Emergency exists
Maple Springs Road	Potential for damage to road due to increased water flows and erosion from burned areas.	Emergency exists
Silverado Motorway Trail	Potential for damage to trail due to increased water flows and erosion from burned areas.	Emergency exists
Maple Springs Visitor Center	Potential for damage to due to increased water flows and erosion from burn areas.	Emergency exists
SCE Powerlines	Potential risk from erosion.	No emergency
Irvine Lake	Potential risk from erosion, loss of capacity	No emergency
Natural and Cultural Resources		
Soil Productivity	Loss of soil productivity as a result of increased erosion.	No emergency
Water Quality	Loss of water quality due to increased erosion	Emergency exists.
Arroyo Toad habitat	Habitat alteration due to increased sediment delivery, increased flows,	No emergency
Native Vegetative Recovery and Sensitive Plants and Wildlife	OHV access with potential damage to plants and their habitat	Emergency exists

Values at Risk	Threat	Determination/Comments
Weed invasion	Habitat alteration due to introduction of noxious weeds	No emergency
Archaeological Sites	No known sites in area, so no apparent threat.	No emergency

Life. Property and Safety – Private homes, Silverado Canyon - Risks include damage or loss of residences downstream with potential injury or loss of life due to landslides or flooding. Silverado Canyon has geology and soils that are prone to mass wasting and have an erosion hazard rating of "Very Severe." In the burn area, most of the slopes are over 50% gradient (Hydrology Report, Appendix G, Slope Map). Gullies and evidence of past slope failures are evident in the canyon and in the burn area. During field visits three days following the fire start, new slope failures, rock fall, and dry ravel were observed in the burn area.

Several homes and the main access road are located adjacent to and downstream and downslope of the burn area. Drainages above the houses have variable Soil Burn Severities; however, hydrologic response is expected to be major. A hydrophobic layer in the upper 1 cm of the soil surface was observed across the burn area (although variable). Only a few drainages have riparian vegetation remaining to buffer flows and sediment loads. Some homes are located at or near the confluence of hillside tributaries and Silverado Creek.

Of major concern are the homes located on the north side of Silverado Creek below the burn area. These houses are at particularly high risk from sedimentation, mass wasting, and debris flows. In some cases there is a small buffer of unburned vegetation; however, slopes are so steep and unstable the buffer is unlikely to provide much stability and/or protection.

The main access road has a low water ford and several bridges that may be damaged, see increased flows, or fail in precipitation events following the fire. Failure of the main access road would limit ingress/egress and could become a safety hazard.

Risk Assessment – Life, Property, and Safety

Probability of Damage or Loss: Likely. The fire and surrounding area are extremely steep and Silverado Canyon is a known risk area for landslides.

Magnitude of Consequence: Major.

Risk Level: Very High.

Property and Safety – Silverado Canyon Road: Risks include expected damage or excessive erosion with material deposited on Silverado Canyon Road (county road). Watershed response is expected to be increased within these areas and the road will experience increased run-on of water and sediment during heavy precipitation events. Bridges and crossings may be at risk of failing due to increased flows, debris, and sediment. Existing sediment, debris, and wood are decreasing some of the bridge(s) capacity to pass flows. Sedimentation is expected to increase substantially and estimated bulking of flows suggest that some of the crossings may fail (particularly the upper bridge near the Forest Service boundary). Some of the bridges, if kept

clear of debris, are estimated to be relatively passable in a two year storm event. See Hydrology Report for further details.

Risk Assessment – Roads

Probability of Damage or Loss: Likely. Silverado Canyon Road is downstream of areas with moderate and high fire severity, and the risk of increased water flow, erosion and damage to these roads is increased.

Magnitude of Consequence: Major. This road is the only public access to homes in Silverado Canyon and this road is likely to be damaged in subsequent rainstorms.

Risk Level: Very High.

Property and Safety – Maple Springs Road: Risks include expected damage or excessive erosion with material deposited on Maple Springs Road. Watershed response is expected to be increased within these areas and the road will experience increased run-on of water and sediment during heavy precipitation events. Although the road lacks bridges, the road may be buried by sediment at crossings or by mass wasting of burned slopes. There is evidence of past mass-wasting at tributary confluences with Silverado Creek. At one confluence, the road has been built on a past debris flow. See Hydrology and Soils reports for details.

Risk Assessment – Roads

Probability of Damage or Loss: Likely. This road is downstream of areas with moderate and high fire severity, and the risk of increased water flow, erosion and damage to this road is increased.

Magnitude of Consequence: Moderate. This road is one of only 3 roads that provide access to the west side of the Santa Ana Mountains.

Risk Level: High.

Property and Safety - Trails: Risks include expected damage or excessive erosion with material deposited on or eroded from Silverado Motorway. The trail is steep and located on soils that are prone to mass wasting. Both the cutslope and fillslope are unstable and eroding. Trail exhibits significant existing erosion and drainage problems. A stream crossing is currently diverting down the trail surface and creating a gully off the trail surface. Several major gullies are located downstream of overside drains and where trail drainage structures have failed. New slope failures, rock fall, and dry ravel were observed along the burned trail during site visits. It is estimated that the drainage off the trail in gullies will continue to concentrate flow and increase the erosion power of runoff. This condition may be exacerbated due to the fire. Rockfall will continue to be a danger to trail users. See Hydrology and Soils reports for details.

Risk Assessment – Trails

Probability of Damage or Loss: Very Likely. Three miles of Silverado Motorway is within the fire perimeter and is downslope of areas with moderate and high fire severity, and the probability of increased water flow, erosion and damage to this trail is increased.

Magnitude of Consequence: Moderate to Major. Trail could be seriously damaged.

Risk Level: Very High.

Property and Safety: Maple Springs Visitor Center

Risks include expected damage or excessive erosion due to debris flows or material eroding from slopes. Watershed response is expected to be increased within these areas and the road will experience increased run-on of water and sediment during heavy precipitation events. See Hydrology report for details.

Risk Assessment – Roads

Probability of Damage or Loss: Likely. Maple Springs Visitor Center is directly across from a slope with a high potential for debris flows.

Magnitude of Consequence: Major. Visitor Center could be damaged or destroyed.

Risk Level: Very High.

Property - Powerlines: Risks include possible damage due to excessive erosion around towers. The Southern California Edison (SCE) powerlines were examined for a potential risk from increased erosion, debris flow and flooding. The risk to the powerlines was estimated to be low. Powerlines are located in lower risk areas (e.g. on ridges).

Risk Assessment – Powerlines

Probability of Damage or Loss: Unlikely. Most towers are on more gradual slopes and are expected to be securely anchored. SCE, the local utility has not expressed a concern.

Magnitude of Consequence: Moderate.

Risk Level: Low.

Property – Irvine Lake: Risks include additional sedimentation that could reduce the lake's capacity. Hydrologic modeling was used to estimate the potential risk from erosion that could result in a loss of capacity. It is estimated that there will be an increase in sediment and flows. The first post fire winter is estimated to deliver twice the amount of sediment annually delivered to the Lake. See Hydrology report for details.

Risk Assessment - Irvine Lake

Probability of Damage or Loss: Unlikely. The lake is about 10 miles downstream of the burn

area.

Magnitude of Consequence: Moderate.

Risk Level: Low.

Natural Resources - Soil Productivity: There is no emergency to soil productivity due to the fire-adapted ecosystem.. It is expected the burned area will contribute to increased runoff and sediment delivery to the drainages compared with pre-burn conditions due to the steep slopes and erosive soils in the burn area. Most of the drainages have low to moderate burn severity with some areas of rock within the fire perimeter. Flash flooding potential exists in these drainages without the influences of post- fire watershed conditions. See Soils report for details.

Risk Assessment – Soil Productivity

Probability of Damage or Loss: Very Likely. This determination is due to the substantial expected change in watershed response.

Magnitude of Consequence: Minor. This determination is due to the expected recovery of the vegetation within a few years.

Risk Level: Low.

Natural Resources – Water Quality: There is an emergency for water quality. It is expected the burned area will contribute to increased runoff and sediment delivery to the drainages compared with pre-burn conditions due to the steep slopes and erosive soils in the burn area. Wildfires primarily affect water quality through increased sedimentation. As a result, the primary water quality constituents or characteristics affected by fire include color, sediment, bedload, suspended material, and turbidity. Floods and debris flows can entrain large material, which can physically damage infrastructure in the channel and adjacent to floodplains. Fire-induced increases in mass wasting along with vegetation mortality can result in increases in floating material. Post-fire delivery of organic debris to stream channels can potentially decrease dissolved oxygen concentrations in streams. Fire-derived ash inputs can increase pH, alkalinity, conductivity, and nutrient flux (e.g. ammonium, nitrate, phosphate, and potassium), although these changes are generally short lived. Post-fire increases in runoff and sedimentation within the urban interface may also lead to increases in chemical constituents, oil/grease, and pesticides.

The most noticeable effects on water quality will be possible increases in sediment and ash from the burned area into Silverado Creek and other waterbodies downstream of the fire area. Based on historic precipitation patterns, frontal storms have a high probability of occurring in the weeks following the fire. Although the area has an inherent risk of flash floods and erosion, the risk of flash flooding and erosional events will increase as a result of the fire, creating hazardous conditions within and downstream of the burned area. See Hydrology report for details.

Risk Assessment – Water Quality

Probability of Damage or Loss: Very Likely. This determination is due to the substantial expected change in watershed response.

Magnitude of Consequence: Moderate.

Risk Level: Very High.

Natural Resources – Arroyo Toad- Threatened and Endangered Species: The Silverado Fire may affect Arroyo Toad habitat that is immediately downstream of the fire area. See Wildlife report for details.

Risk Assessment – Arroyo Toad

Probability of Damage or Loss: Unlikely. Designated critical habitat for Arroyo Toad is present downstream of the fire area. Based on past fires on the Forest that included Arroyo Toad habitat, including the Ortega Fire in 1993 and the Witch Fire in 2007, Arroyo Toads are well-adapted to a fire-dependent environment. Sediment and ash will be carried off in winter rains prior to the toad breeding season.

Magnitude of Consequence: Moderate.

Risk Level: Low.

Natural Resources- Sensitive Wildlife: The potential values at risk for sensitive species are the stability and viability of populations. There are several animals known to occur within the fire area, including Coastal Rosy Boa, San Diego Mountain Kingsnake, and San Diego Horned Lizard. All of these species are resilient to fire. However these species may be harmed if unauthorized OHV activity occurs within the fire area. There is an extremely high risk of unauthorized OHV activity following the fire. Unauthorized OHV activity will greatly disturb the natural landscape, visual quality, recreational opportunity expectations of forest users, and the ability of the vegetation to regenerate. Past experience shows administrative closures are ineffective in preventing unauthorized OHV activity. The Santiago Fire is adjacent to highly urbanized areas with an extremely large number of OHV users in the area. Physical barriers plus signage and OHV regulation enforcement by patrol personnel are the only proven effective methods of reducing unauthorized OHV activity. See Wildlife report for details.

Risk Assessment – Sensitive Wildlife

Probability of Damage or Loss: Very Likely. These species are resilient to fire, but these species and their habitat are very vulnerable to damage from unauthorized OHV use within the burn area.

Magnitude of Consequence: Moderate.

Risk Level: Very High.

Natural Resources - Native Vegetation Recovery and Sensitive Plants: Chaparral habitat affected by the fire is expected to recover within 5 years. Sensitive plants in the area such as Weed's Mariposa Lily are fire-tolerant. However, the potential for increased OHV activity in the burned area would adversely impact the recovery of vegetation and native plants. See discussion under Sensitive Wildlife. See Wildlife and Vegetation report for details.

Risk Assessment – Native Vegetation Recovery

Probability of Damage or Loss: Very likely.

Magnitude of Consequence: Moderate.

Risk Level: Very High.

Natural Resources - Weeds: New weed invasions could occur within the fire area.

Risk Assessment – Weeds

Probability of Damage or Loss: Unlikely. No risks of new weed invasions were identified.

Magnitude of Consequence: Minor.

Risk Level: Very Low.

Cultural Resources: No cultural resources have been previously identified or recorded within the Silverado burn area or vicinity. A field investigation on Sept 15, 2014 did not reveal any new sites.

Risk Assessment – Cultural Resources

Probability of Damage or Loss: Unlikely

Magnitude of Consequence: Minor.

Risk Level: Very low.

B. Emergency Treatment Objectives:

Treatment Area	Suggested Treatment	Risk Determination
Lands		
Residents of Silverado Cyn	Inform residents of increased danger and need to contact NRCS for assistance. Contact Orange County Fire Authority about need for an Early Warning System to evacuate Silverado Canyon in the event of precipitation events (especially within the first year).	Very High Risk.
Roads and Trails		
Private homes, Silverado Cyn	Inform residents of increased danger and need to contact NRCS for assistance.	Very High Risk.
Forest Service Facility (Visitor Center), Silverado Cyn	Close site.	Very High Risk.
County Road, Silverado Cyn	Inform county of increased risk of sedimentation and flows.	Very High Risk.
Maple Springs Road	Close road from public use (especially during the first year during precipitation events). Implement storm patrols. Install heavy gates to control use.	High Risk.
Silverado Motorway Trail	Add drainage features to prevent increased erosion and to disperse flow. Close to access until vegetation recovers (especially during first year).	Very High Risk.
Natural Resources/ Protection and Safety		
Burned Area and water quality; vegetation recovery and sensitive plants and wildlife	Close area until vegetation recovers. Install barriers to block OHV access. Stormproof (add waterbars, energy dissipators, leadout ditches, overside drains, etc.) Silverado Trail to decrease concentration of trail surface flow and the amount of sediment that will be delivered to streams.	Very High Risk.

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

Land 95 % Channel n/a % Roads/Trails 95 % Protection/Safety 95 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	95	95	95
Channel	n/a	n/a	n/a
Roads/Trails	95	95	95
Protection/Safety	95	95	95

E. Cost of No-Action (Including Loss): **\$1,000,000 and potential risks to life**

F. Cost of Selected Alternative (Including Loss): **\$161,000**

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 checked="" type="checkbox"/> Recreation
<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/> Haz Mat
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: Kirsten Winter, Forest Biologist

Email: kwinter@fs.fed.us Phone: 858 674 2956

FAX: 858 673 6192

Team members:

Kirsten Winter – Botany, Wildlife, and Vegetation

Emily Fudge – Hydrology

Debra Clarke - Recreation

Bill Wells -- Soils

Devin Quintana – GIS

Steve Harvey- Archaeology

H. Treatment Narrative:

The following narrative provides details of the treatments recommended to address the emergency situations for values at risk.

Land Treatments:

Public and Agency Notification of Emergencies

Forest will notify the public via press releases and local agencies through direct contact of emergencies that need to be addressed. This will include notifying Orange County Fire Authority of the need for an Early Warning System to evacuate Silverado Canyon in the event of large rainstorms. Forest will also notify Orange County Flood Control, OC Emergency Services, Orange County Public Works, and Irvine Lake managers of the hazards and increased maintenance needs that will result from the fire. Forest to install EWS to detect severe rain events.

Treatment Cost

Item	Unit Cost	# Units	Total
Forest liaison	\$500 ea.	5days	\$2500
EWS system	4000	1	\$4000
Total			\$6500

Channel Treatments - N/A

Road and Trail Treatments

Maple Springs Road storm-proofing. Road stabilization for Maple Springs Road will reduce road damage and degradation to downstream values. Treatment will include maintaining all existing water control structures including water bars, rolling dips, off trail drains and swales for best effectiveness. Treatment will also include closing the road for at least one winter season and patrolling road and removing woody debris that may contribute to road damage. See Hydrology report for details.

Treatment Costs

Unit	Unit Cost (installed)	#Units	Total
Repair and maintain drainage features and water bars along 1 mile of road below burned area.	\$20,000	1	\$20,000
Contract Prep and Admin-	\$4000	1	\$4000
Mileage, materials			4000
total			\$28,000

Silverado Motorway Trail storm-proofing. Trail stabilization for the Silverado Motorway will provide drainage and stability to reduce trail damage and degradation to downstream values. Treatment will include maintaining all existing water control structures on trails, including water bars, rolling dips, off trail drains and swales for best effectiveness and install additional erosion controls on trails. Install grade stabilizing checks in areas vulnerable to further incision. Install additional rolling dips and over-side drains in trails sections where lacking. Increase out board drainage (berm removal) where possible. Treatment will include closing the trail for at least one winter season. See Hydrology report for details.

Treatment Costs

Unit	Unit Cost (installed)	#Units	Total
Repair and maintain drainage features and waterbars along 3 miles of trail within burned area.	\$24000	1	\$24,000
Contract Prep and Admin-	\$4000	1	\$4000
Mileage, materials			4000
total			\$32,000

Road and Trail Signs

Threats to life and public safety exist along system trails that are located within the fire area.. Sign installation is required.

Treatment Cost

Item	Unit Cost	# Units	Total
Trail Signs	\$50 ea.	20	\$1000
Road Signs	\$100/ea	4	\$4000
Recreation Tech.	\$250/day	8 days	\$1000
Total			\$6000

Protection/Safety Treatments:

Gates, Barriers and Storm Patrols: Two heavy-duty gates and some barriers are needed to protect recovering areas from OHV use that will cause erosion or interfere with

vegetative recovery and sensitive species recovery. The burned area would be closed to public entry for at least one winter season to protect natural resources and to protect the public from the increased safety hazards due to erosion, rockfalls, and debris flows. Two new gates with adjoining barriers are needed to allow effective closure of the burned area near Silverado Motorway and near the Maple Springs/ Main Divide intersection to prevent unauthorized OHV use of the burned area. In addition, patrols will be needed to enforce the closure and ensure that the public is staying out of hazardous areas. Road: This treatment consists of patrolling Maple Springs Road and clearing rock and debris fall during and after each rainfall event to reduce the potential for injury to the public and Forest personnel traveling along the road. Patrols would check the road conditions when safe for travel, and if needed deploy a backhoe to assist in the removal of rock and debris.

Treatment Costs

	Item	Unit Cost	Units	Total
A	Two gates	20,000	2	\$40,000
i	Barrier	50/lf	150	\$7500
r	Closure signs for roads and trails	500/ea	12	\$6000
Q	Contracting Officers Rep	500/day	10	\$5000
	Storm patrols for closure area	500/ea	30	\$15,000
	Equipment costs for clearing road	1500/day	10	\$15,000
	Total			\$88,500

I. Monitoring Narrative: N/A

Part VI – Emergency Stabilization Treatments and Source of Funds
Interim #

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands			All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units Non Fed \$	
A. Land Treatments									
Forest Liaison	ea	500	5	\$2,500	\$0		\$0	\$0	\$2,500
EWS	ea	4000	1	\$4,000	\$0				\$4,000
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Land Treatments				\$6,500	\$0		\$0	\$0	\$6,500
B. Channel Treatments									
				\$0	\$0		\$0	\$0	\$0
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0	\$0	\$0
C. Road and Trails									
Road stabilization	ea	28000	1	\$28,000					28000
Trail Stabilization	ea	32000	1	\$32,000	\$0		\$0	\$0	\$32,000
Trail signs	ea	50	20	\$1,000	\$0				\$1,000
road signs	ea	1000	5	\$5,000	\$0		\$0	\$0	\$5,000
<i>Insert new items above this line</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Road & Trails				\$66,000	\$0		\$0	\$0	\$66,000
D. Protection/Safety									
Gates and barriers	ea	23750	2	\$47,500	\$0		\$0	\$0	\$47,500
Storm patrols	500	25000	30	\$15,000	\$0		\$0	\$0	\$15,000
Closure signs	ea	500	12	\$6,000	\$0		\$0	\$0	\$6,000
Contracting ofc rep		500	10	\$5,000			0	0	\$5,000
Costs to clear road		1500	10	\$15,000			\$0	\$0	\$15,000
<i>Insert new items above this line</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Structures				\$88,500	\$0		\$0	\$0	\$88,500
E. BAER Evaluation									
	1	20000	1	\$20,000			\$0	\$0	\$20,000
<i>Insert new items above this line</i>				---	\$0		\$0	\$0	\$0
Subtotal Evaluation				\$20,000	\$0		\$0	\$0	\$0
F. Monitoring									
	1				\$0				\$0
<i>Insert new items above this line</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0	\$0	
G. Totals				\$181,000	\$0		\$0	\$0	\$181,000
Previously approved				\$20,000					
Total for this request				\$161,000					

Not approved: EWS

\$4,000

Approved:

\$157,000

PART VII - APPROVALS

1.

William M. G.
Forest Supervisor (signature)

9/24/14
Date

2.

Bennie T. Dyant
Regional Forester (signature)

10/1/2014
Date