

Date of Report: **07/08/2013****Revised 8-5-2013****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: Thompson Ridge
- B. Fire Number: NM-N6S-000155
- C. State: NM
- D. County: Sandoval
- E. Region: Southwestern (03)
- F. Forest: Valles Caldera National Preserve¹
- G. District: N/A
- H. Fire Incident Job Code: PNHJC4
- I. Date Fire Started: May 31, 2013
- J. Date Fire Contained: July 10, 2013 (ICS-209 dated 6/30/2013)
- K. Suppression Cost: \$16,326,136 (ICS-209 dated 6/30/2013)
- L. Fire Suppression Damages Repaired with Suppression Funds
 - 1. Fireline waterbarred (miles): 8 miles dozer line, 4 miles hand line.
 - 2. Fireline seeded (miles): 0 miles
 - 3. Other (identify): 19 miles road waterbarred, 0.4 mile road closed, 2 cultural sites stabilized, 15 fence breaks repaired

¹ Through an Interagency Agreement dated October 23, 2012 and Wildland Fire Operations Plan the Santa Fe National Forest provides pre-suppression and suppression for wildfire management and burned area response services to the Valles Caldera National Preserve.

M. Watershed Number:
6th Code Watersheds within the Thompson Ridge Burned Area

<i>6th Level Watershed</i>	<i>Watershed Name</i>
130202020201	Headwaters San Antonio Creek
130202020202	Sulphur Creek
130202020203	East Fork Jemez River

N. Total Acres Burned: 23,965 (as of June 29, 2013)
NFS Acres (23,934)² Other Federal () State () Private (34)

O. Vegetation Types: Ponderosa Pine (23%), Mixed Conifer (63%), Deciduous Shrub, (1%), and Grass/Shrub (13%)

P. Dominant Soils: TEUI Map Units, 892, 891, 890, 888, 877, 875, 862, 861, 859, 854
(Map unit interpretive data is summarized as Appendix C of the Soils Specialist Report prepared for the Valles Caldera National Preserve, located in the project record)

Q. Geologic Types: Bandolier Tuff (Qbt), Valles Rhyolite (Qr), Silicic Volcanics (Qr), Neogene Volcanic Rocks (Tnv), Piedmont Alluvial Deposits (Qp), Basaltic Volcanics (Qv), and Alluvium (Qa).

R. Miles of Stream Channels by Order or Class:
48 miles intermittent
23 miles perennial

S. Transportation System

Trails: 30 miles Roads: 47 miles
Road miles reflect primary use/numbered roads within burned perimeter, total road miles (all uses) within the burned area perimeter is approximately 294 miles.

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 17,822 (low/unburned) 5,458 (moderate) 639 (high)³

B. Water-Repellent Soil (acres): < 500

C. Soil Erosion Hazard Rating (acres):
11,185 (low) 12,726 (moderate) 0 (high)

D. Erosion Potential: 14 tons/acre

E. Sediment Potential: 338 cubic yards / square mile

² Acreage reported reflects total of affected land areas on the Valle Caldera National Preserve (23,828 ac.) and the Jemez RD (38 ac.).

³ Acreage within Burn Severity Classes reflects totals as of the 6/19/13 perimeter when decision was made to lock down the data for analysis purposes. Minor increase of fire size (46 ac) has occurred since that time but fire intensity of those additional acres does not affect this analysis.

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period (years): 5-7 yrs.
- B. Design Chance of Success (percent): 50%
- C. Equivalent Design Recurrence Interval, (years): 25 yr.
- D. Design Storm Duration, (hours): 1 hr.
- E. Design Storm Magnitude, (inches): 1.85 inches
- F. Design Flow, (cubic feet / second/ square mile): 112.4 cfs/sq. mile
- G. Estimated Reduction in Infiltration, (percent): 60%
- H. Adjusted Design Flow, (cfs per square mile): 237.3 cfs/sq. mile

PART V - SUMMARY OF ANALYSIS

- A. Describe Critical Values/Resources and Threats:

The Thompson Ridge Fire was started on June 13, 2013 and burned approximately 23,965 acres (as of 29th June 2013) within the foothills and mountains of the Valles Caldera National Preserve (VCNP) near Jemez Springs, New Mexico in Sandoval County. The fire perimeter in a general sense can be delineated by Valles Caldera (VC) route 02 on the south, VC 06 on the northeast, VC 01 along the east flank of the burned area. Table 1 summarizes the acres burned by land ownership.

Table 1: Area Burned and Percent of Burned Area by Land Ownership

<i>Land Ownership</i>	<i>Acres</i>	<i>Percent of Burned Area</i>
USDA – Valles Caldera National Preserve (VCNP)	23,828	99.7%
USDA - Forest Service System Lands (NFS)	38	0.16%
Private	34	0.14%
Total	23,900	100%

Valles Caldera is a 13.7-mile wide volcanic caldera in the Jemez Mountains of northern New Mexico. Hot springs, streams, fumaroles, natural gas seeps and volcanic domes dot the caldera floor landscape. The highest point in the caldera is Redondo Peak, an 11,253-foot resurgent lava dome located entirely within the caldera. Also within the caldera are several grass valleys (valles) the largest of which is Valle Grande, the only one accessible by an improved gravel road.

A portion of the caldera is a national preserve known as the Valles Caldera National Preserve, a unit of the National Forest System. Encompassing part of the caldera, the Preserve is located in northeastern Sandoval County and southern Rio Arriba County, just west of Los Alamos. The Preserve has a land area of 89,216 acres and is administered by the Valles Caldera Trust with offices in Jemez Springs. In a unique cooperative relationship which is authorized by formal agreement, the Forest Supervisor of the Santa Fe National Forest has the responsibility for “preparedness, suppression, and emergency rehabilitation” activities for wildland fire incidents on the Valles Caldera National Preserve. The Thompson Ridge fire has burned primarily Ponderosa Pine, mixed-conifer, aspen, and spruce-fir forest types within its perimeter.

The burned area encompasses several tributaries to the Upper Jemez River watershed: East Fork Jemez River, Sulphur Creek, and the Headwaters San Antonio.

Field assessment of moderate and high burn severity within the fire perimeter showed a limited amount of soil hydrophobicity. Watershed response to post fire storm events will be influenced directly by the loss of forest canopy cover and lack of effective vegetative ground cover.

Critical Values Identified

Critical Values identified (FSM Interim Direction 2523.1 Exhibit 02) during the BAER assesment are:

1. Human Life and Safety
2. Property
3. Natural Resources (water quality of natural waters, domestic use, invasive species or noxious weeds, and soil productivity)
4. Cultural and Historic Resources (Traditional Cultural Properties, Traditional Uses, etc.)

The Thompson Ridge BAER team evaluated the risk to those critical values per Exhibit 2, Interim Directive No. **2520-2013-1** (8/31/12) was used to evaluate the Risk Level for each value at risk identified during Assessment:

2523.1 - Exhibit 02

BAER Risk Assessment

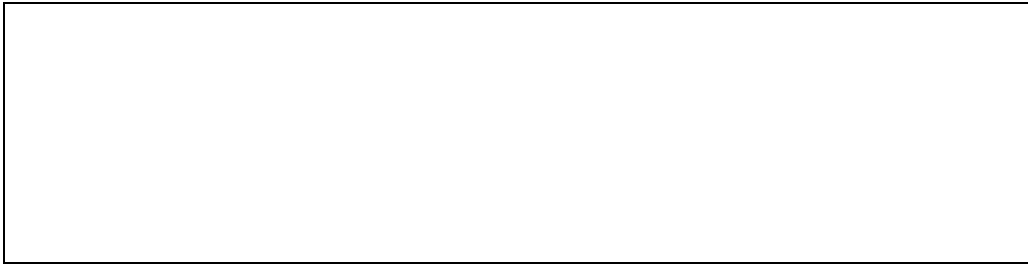
Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

Probability of Damage or Loss: The following descriptions provide a framework to estimate the relative probability that damage or loss would occur within 1 to 3 years (depending on the resource):

- Very likely. Nearly certain occurrence (90% - 100%)
- Likely. Likely occurrence (50% - 89%)
- Possible. Possible occurrence (10% - 49%)
- Unlikely. Unlikely occurrence (0% - 9%)

Magnitude of Consequences:

- Major. Loss of life or injury to humans; substantial property damage; irreversible damage to critical natural or cultural resources.
- Moderate. Injury or illness to humans; moderate property damage; damage to critical natural or cultural resources resulting in considerable or long term effects.
- Minor. Property damage is limited in economic value and/or to few investments; damage to critical natural or cultural resources resulting in minimal, recoverable or localized effects.



The Very High and High Risk categories are unacceptable risk levels due to threats to human life, property, infrastructure and resources (natural and cultural), therefore treatments should be applied. An Intermediate Risk could be unacceptable if human life or safety is the critical value at risk.

Sulphur Creek Watershed (130202020202)

SC 1 Threats to Human Life and Safety

There is an **Intermediate** risk (*Possible probability 10 to 49% and magnitude = moderate*) of injury or loss of life to residents of the Sulphur Springs/Elk Valley subdivisions on private property along the western boundary of the VCNP. Post fire flood waters originating from the Freeloove/Mormon/Deer Canyon areas could impact County roads, private roads, and driveways and emergency ingress/egress could be compromised. Post fire flood flows originating in these canyons are expected to increase 1½ to 2½ times pre fire values. Due to the close proximity of these small watershed to each other and to the private lands located at their mouths, a typical thunderstorm could impact all three concurrently and the short time of concentration (Tc) would likely produce flood flows in Sulphur Creek with little to no time lag.

SC 1A Threats to Natural Resources (risk of loss of control of water and unacceptable levels of soil erosion)

There is a **Very High** risk (*very high probability 90 to 100% and magnitude = moderate*) of loss of control of water and unacceptable levels of soil erosion and sediment delivery in the Freeloove/Mormon/Deer Canyon in areas of moderate and high burn severity. Steep slopes where vegetative groundcover has been lost will almost certainly see soil erosion levels increase well above tolerance soil loss rates and storm events will deliver increased flood flows 1½ to 2½ times pre fire levels.

Recommended Actions:

- Seed (annual Barley) and mulch (agricultural straw) approximately 397 acres of moderate and high burn severity areas within Freeloove/Mormon/Deer Canyons. Seeding of annual barley seed at a rate of 25 lbs/acre is proposed. Mulch would also be applied aerially at a rate of 1 ton/acre. Seed and agricultural mulch materials applied are required to be “certified weed free” per requirements of the State of Origin. This treatment is intended to reduce the threat to life and safety and risk of storm damage to downstream infrastructure by providing immediate ground cover to moderate and high burn severity areas, reduce the risk of sediment bulking of storm flows, protect existing water quality, and protect long term site productivity.

Due to the onset of summer monsoons, it is not possible to apply protective mulch prior to damaging storms; therefore, this activity in original request was removed from the approval.

SC 2 Threats to Property

There is an **Very High** risk (*very likely probability 90 to 100% and magnitude = major*) of property damage and possible Injury to humans from hazard trees resulting from the Thompson Ridge fire along VCNP and SFNF/private land boundaries and along FS Road 105 as a result of the Thompson Ridge fire.

Assessment of hazard trees conducted during the damage assessment indicates hazard trees potentially impact private property and FS Road 105. The magnitude of consequence is major, as threats to private residences and related infrastructure are within the potential failure zone of the hazard trees. Large tree

size, fire damage to trees, mortality of trees, and close proximity of these hazards to ingress/egress routes and private structures form the basis for risk assessment.

Recommended Actions:

- **Sign FS Road 105 to warn users of hazard tree potential.**
- **Identify specific hazard trees within the distance of 1 1/2 times tree height adjacent to property and transportation infrastructure and fell needed trees (approximately 13 acres on VCNP and 9 acres along FS Road 105).**

SC 2A There is an **Low** risk (*likely probability 50 to 89% and magnitude = minor*) of property damage from overtopping of Laguna Seco Dam (earthen) due to flood flows resulting from the Thompson Ridge fire in the Valle Seco drainage of the VCNP along VC 06 road.

Assessment of burn severity and analysis of post fire flood flows indicate the low risk of this earthen structure is low risk. There is some existing damage to the spillway so monitoring of the condition throughout the monsoon season is warranted.

Recommended Actions:

- **Monitor this structure during monsoon season of 2013 and inspect for damage should the laguna pond fill and overtop.**
- **Recommend the R2/R3 Regional Dam Safety Engineer be consulted for repair needs as warranted.**

SC 2B There is an **High** risk (*possible probability 10 to 49% and magnitude = major*) of property damage and water quality contamination from flooding to the Union Building in the Redondo watershed. Flood waters could enter the structure and flood and overtop the oil/grease pits within the maintenance garage area, as well as result in water damage to the remainder of the building.

Recommended Actions:

- **Pump oil/grease pits (2), haul and dispose of waste material at an approved facility.**
- **Place sandbags (2 rows high) at garage door openings, upstream side of the building and around each of the 2 drain grates inside the maintenance building to minimize risk of floodwaters entering the building and the oil/grease pits.**
- **Monitor this building during monsoon season of 2013 and inspect for damage.**

SC 2C There is an **High** risk (*likely probability 50 to 89% and magnitude = major*) of property damage to elk enclosures in the Redondo Restoration Project Area. These enclosures are situated at the mouth of Redondo Creek and increased flood flows from the burned area has potential to trap fine and coarse debris which may damage the enclosures or create a large mass of debris with potential to damage downstream infrastructure, such as SH 4 culvert crossings, if mobilized.

Recommended Actions:

- **Remove the upstream and downstream portions of each (3) of these enclosures (fence wire and posts) to prevent possible debris trapping by cross channel fencing and reduce risk of mobilization of a large mass of debris to the SH culvert crossings downstream.**

SC 3 Threats to Cultural and Heritage Resources

There is an **Very High to High** risk (*very likely probability 90 to 100% and magnitude = major*) of erosion and cultural resource damage and Traditional Cultural Properties from flooding in the Sulphur Creek watershed area. Flood waters could impact numerous sites and cause loss of archaeological resources as well as culturally significant areas important to local indigenous peoples.

Recommended Actions:

- **Treat 16 at risk cultural sites by cutting fire damaged trees to prevent root pull, place log erosion barriers to deflect flood waters, scatter slash for surface protection.**

- **Monitor all sites (16) and TCP (5) areas to evaluate potential for future treatment needs.**

The action for monitoring sites was not approved.

SC 4 Threats to Natural Resources (aquatic environment and water quality in Sulphur Creek)

There is an **Low** risk (*likely probability 50 to 89% and magnitude = minor*) of damage to aquatic environments and water quality from sulphur mine tailings waste water being washed out of the holding pond at the Sulphur Springs Mine on private property along Sulphur Creek within the watershed. Potential contamination by this low pH waste water could have deleterious effects to aquatic environments and water quality a short distance downstream.

Recommended Actions:

- **Contact appropriate State of NM regulatory agencies (NM Environment Dept., NM Mines and Minerals Dept., and NM Dept. of Homeland Security – Emergency Management and request evaluation and cooperative action by State and landowner (done by BAER Team during assessment phase).**

SC 5 Threats to Natural Resources (risk of establishment/expansion of invasive species and noxious weeds)

There is a **High** risk (*likely probability 50 to 89% and magnitude = moderate*) of expansion of known populations or establishment of new populations of invasive plant species/noxious weeds as a result of the Thompson Ridge fire. Current known populations are concentrated along roads and areas of human habitation and use and road use, vehicle tracking within the perimeter, and new disturbance of lands thru suppression activities and fire damage is likely to lead to expansion or establishment of new populations.

Recommended Actions:

- **Monitor known populations of invasive species and noxious weeds. Treat any expansion of these populations promptly with the most appropriate method to control expansion.**
- **Monitor newly disturbed areas, especially along roads used to access the fire during suppression activities, dozer lines, hand lines, drop points, and staging areas for establishment of new populations of invasive and noxious weeds. Treat any newly established populations promptly with the most appropriate method to control expansion.**
- **Monitor areas of Moderate and High burn severity for establishment of new populations of invasive and noxious weeds. Treat any newly established populations promptly with the most appropriate method to control newly established populations.**

East Fork Jemez River Watershed (130202020203)

EFJ 1 Threats to Human Life and Safety

There is an **Very High to High** risk (*very likely probability 90 to 100% and magnitude = major*) of injury or loss of life to VCNP personnel, visitors, and recreating public on the Santa Fe NF – Jemez RD due to post fire flooding both within the fire perimeter and downstream watershed areas as a result of the Thompson Ridge fire. Post fire flood flows are expected to increase 1½ to 2 times pre fire values and the low lying areas where people congregate, such as trailheads, picnic areas and campgrounds are at risk.

EFJ 1A There is an **Very High to High** risk (*very likely probability 90 to 100% and magnitude = major*) of injury or loss of life to VCNP personnel, visitors, and others within the Historic District/Baca Ranch House and A Frame Cabins as a result of Hazard Trees as a result of the Thompson Ridge fire. Hazard Tree assessment of these areas indicated confirmed tree mortality and fire damage to trees in these areas.

Recommended Actions:

- **Administratively close the following areas:**

VCNP – Historic District Cabins/Baca Ranch House, A Frame Cabins.

Jemez RD – East Fork Jemez River Corridor: Los Conchas Picnic Area; Forest Trail 137 from Los Conchas to Battleship Rock; Los Conchas Trailhead, East Fork Trailhead, Jemez Falls Trailhead, and Battleship Rock Trailhead.

- ***Post warning signs at all areas identified above advising the public of the hazard in and along the areas subject to post fire flood risk.***
- ***Identify specific hazard trees within the distance of 1 1/2 times tree height adjacent to all structures in the Historic District/Baca Ranch House and A Frame Cabin area and fell hazard trees (approximately 3 acres on VCNP).***
- ***Patrol areas on a regular basis and remove debris accumulated under foot bridges and other infrastructure within the flood prone area (picnic areas, trails within the East Fork Jemez National Recreation Area).***

The VCNP hazard tree reduction activity is approved for removal of those burned trees that pose a distinct risk to buildings and infrastructure. SFNF hazard tree reduction is approved for removal of high risk trees along the portion of FR 105 that must remain open to the public.

EFJ 2 Threats to Property

There is an **Very High** risk (*very likely probability 90 to 100% and magnitude = major*) of property damage from post fire flooding and debris flows resulting from the Thompson Ridge fire in the Historic District/Baca Ranch House area of the VCNP. Water system infrastructure is at risk as is the historic cabins and Baca Ranch House as a result of watershed damage in the west fork of La Jara Creek within the Thompson Ridge burned area.

Assessment of property and infrastructure in this area determined that it resides near the toe of an old debris fan. The water system is comprised of an infiltration gallery, slow sand filter, a water storage tank, and a UV treatment facility. All of this infrastructure is situated near La Jara Creek which is expected to experience post fire flood flows of 2-3 times pre fire values.

Recommended Actions:

- ***Remove floatable debris from within 50 feet of centerline along La Jara Creek between VCNP roads VC 02 and VC 0201 (approximately 1 mile). Material removed should be placed beyond the 50 foot distance each side of channel centerline. Material less than 18 inches DBH will be removed to minimize potential for becoming floatable debris during storm flood flows and potentially impacting property and infrastructure down stream in the Historic District of the VCNP***
- ***Point protection of water system infrastructure and historic cabins/Baca Ranch House to deflect flood flows away from critical infrastructure components and historic structures to minimize damage from flooding and sedimentation.***
- ***Monitor these areas after any flood events, repair point protection barriers as needed, remove sediment and debris, as needed.***
- ***Pump septic systems associated with the Historic District cabins/Baca Ranch House and A Frame cabins and re-fill with water to prevent contamination of surface water from flooding.***

EFJ 2A There is a **High** risk (*likely probability 50 to 89% and magnitude = moderate*) of property damage from post fire flooding from the Thompson Ridge fire to elk enclosures in upper Jaramillo Creek, Jaramillo Creek below Cerro Pinon, and the East Fork Jemez (3 total). These enclosures have the potential to trap fine and coarse debris which may damage the enclosures or create a large mass of debris with potential to damage downstream infrastructure if mobilized during flood events.

Recommended Actions:

- ***Remove the upstream and downstream portions of each of these enclosures (fence wire and posts) to prevent possible debris trapping by cross channel fencing and reduce risk of mobilization of a large mass of debris downstream.***

EFJ 3 Threats to Cultural and Heritage Resources

There is a **Very High to High** risk (*very likely probability 90 to 100% and magnitude = major*) of erosion and cultural resource damage and Traditional Cultural Property from flooding in the East Fork of the Jemez watershed area. Flood waters could impact numerous sites and cause loss of archaeological resources as well as culturally significant areas important to local indigenous peoples.

Recommended Actions:

- ***Treat 27 at risk cultural sites by cutting fire damaged trees to prevent root pull, place log erosion barriers to deflect flood waters, scatter slash for surface protection.***
- ***Monitor all sites (27) and TCP (5) areas to evaluate potential for future treatment needs.***
- ***Monitor all sites (20+) in East Fork of the Jemez Watershed on SFNF lands between VCNP and Battleship Rock to evaluate potential for future treatment needs.***

EFJ 4 Threats to Natural Resources (risk of establishment/expansion of invasive species and noxious weeds)

There is a **High** risk (*likely probability 50 to 89% and magnitude = moderate*) of expansion of known populations or establishment of new populations of invasive plant species/noxious weeds as a result of the Thompson Ridge fire. Current known populations are concentrated along roads and areas of human habitation and use and road use, vehicle tracking within the perimeter, and new disturbance of lands thru suppression activities and fire damage is likely to lead to expansion or establishment of new populations.

Recommended Actions:

- ***Monitor known populations of invasive species and noxious weeds. Treat any expansion of these populations promptly with the most appropriate method to control expansion.***
- ***Monitor newly disturbed areas, especially along roads used to access the fire during suppression activities, dozer lines, hand lines, drop points, and staging areas for establishment of new populations of invasive and noxious weeds. Treat any newly established populations promptly with the most appropriate method to control expansion.***
- ***Monitor areas of Moderate and High burn severity for establishment of new populations of invasive and noxious weeds. Treat any newly established populations promptly with the most appropriate method to control newly established populations.***

San Antonio Creek Watershed (130202020201)

SA 1 Threats to Human Life and Safety

There is an **High** risk (*likely probability 50 to 89% and magnitude = major*) of injury or loss of life to recreating public at Spence Hot Springs/Dark Canyon Picnic Area on the Santa Fe NF – Jemez RD due to post fire flooding downstream of the fire perimeter as a result of the Thompson Ridge fire. Post fire flood flows are expected to increase 1½-2 times pre fire values and the low lying areas where people congregate, such as trailheads, picnic areas and campgrounds are at risk.

Recommended Actions:

- ***Administratively close the following areas:***

Jemez RD – Spence Hot Springs and La Cueva Picnic Area.

- ***Post warning signs and barricades (as needed) at all areas identified above advising the public of the hazard in and along the areas subject to post fire flood risk.***

- Pump septic systems within flood prone areas at these sites and re-fill with water to prevent contamination of surface water from flooding.
- Patrol areas on a regular basis and remove debris accumulated under foot bridges and other infrastructure within the flood prone area.

SA 2 Threats to Cultural and Heritage Resources

There is a **Very High to High** risk (*very likely probability 90 to 100% and magnitude = major*) of erosion and cultural resource damage and Traditional Cultural Property from flooding in the San Antonio watershed area. Flood waters could impact numerous sites and cause loss of archaeological resources as well as culturally significant areas important to local indigenous peoples.

Recommended Actions:

- ***Treat 5 at risk cultural sites by cutting fire damaged trees to prevent root pull, place log erosion barriers to deflect flood waters, scatter slash for surface protection.***
- ***Monitor all sites (5) and TCP (3) areas to evaluate potential for future treatment needs.***

SA 3 Threats to Natural Resources (risk of establishment or expansion of invasive species and noxious weeds)

There is a **High** risk (*likely probability 50 to 89% and magnitude = moderate*) of expansion of known populations or establishment of new populations of invasive plant species/noxious weeds as a result of the Thompson Ridge fire. Current known populations are concentrated along roads and areas of human habitation and use and road use, vehicle tracking within the perimeter, and new disturbance of lands thru suppression activities and fire damage is likely to lead to expansion or establishment of new populations.

Recommended Actions:

- ***Monitor known populations of invasive species and noxious weeds. Treat any expansion of these populations promptly with the most appropriate method to control expansion.***
- ***Monitor newly disturbed areas, especially along roads used to access the fire during suppression activities, dozer lines, hand lines, drop points, and staging areas for establishment of new populations of invasive and noxious weeds. Treat any newly established populations promptly with the most appropriate method to control expansion.***
- ***Monitor areas of Moderate and High burn severity for establishment of new populations of invasive and noxious weeds. Treat any newly established populations promptly with the most appropriate method to control newly established populations.***

All Watershed Areas (Sulphur Creek, East Fork Jemez River, San Antonio Creek)

AWS 1 Threats to Property

AWS 1A There is a **High** risk (*likely probability 50 to 89% and magnitude = moderate*) of property damage from post fire flooding to system roads within the Valles Caldera and the Jemez RD as a result of the Thompson Ridge fire. Roads will likely be subject to increased levels of post fire runoff and sedimentation from surrounding areas of Moderate and High burn severity putting the road and related infrastructure elements (surfacing, bar ditches, culverts, grade dips, etc.) in danger of damage and/or loss.

AWS 1B There is also a **High** risk to bridges on FS Road 105 of damage due to post fire flooding and associated debris potentially causing loss of use.

Recommended Actions:

- ***Perform ditch clearing and related road surface re-conditioning on approximately 9 miles of VCNP roads (VC 02, VC03) and 2 miles of SFNF road (FS Road 105).***
- ***Clean approximately 32 culverts along VCNP roads (VC 06, VC 03, VC02) and 3 culverts on SFNF (FS Road 105) to prepare them to pass expected storm flows.***

- *Install 80 rolling grade dips on VCNP roads (VC 03, VC02) to reduce potential for road erosion and provide alternate drainage routes for culverts that may plug.*
- *Construct 1 armored low water crossing on VCNP roads (VC 02).*
- *Clean debris from 2 bridges on SFNF roads (FS Road 105) and 1 pipe arch bridge structure on VCNP roads (VC 02).*
- *Install approximately 70 hazard warning signs on VCNP roads (VC 08, VC 07, VC 06, VC 03, VC02, VC 0201, VC0301) and 6 hazard warning signs on SFNF roads (FS Road 105).*
- *Perform storm patrol on eastside VCNP roads (20 days) and SFNF roads (5 days) to detect road drainage issues and ensure free passage of storm flows.*

The road stabilization request was modified to for stabilization treatments on only those sections of the VCNP roads in close proximity to high and moderate burn severity. The VCNP hazard tree reduction activity is approved for removal of those burned trees that pose a distinct risk to buildings and infrastructure. SFNF hazard tree reduction is approved for removal of high risk trees along the portion of FR 105 that must remain open to the public.

B. Emergency Treatment Objectives:

Reduce risk of injury or loss of life from hazard trees and post fire flooding in the lower San Antonio drainage, Sulphur Creek drainage, and the East Fork Jemez drainage.

Protect downstream infrastructure such as historic structures in the Historic District, water system infrastructure, recreational infrastructure on the Jemez RD along the East Fork Jemez, from damage due to post fire flooding and debris flows.

Protect Cultural Resources and Traditional Cultural use areas within the VCNP and downstream along the Jemez River.

Reduce risk of loss to VCNP and SFNF road infrastructure from damage or loss of use by performing maintenance to enhance passage of storm flows and protect related infrastructure (bridges, culverts) from loss. Install additional drainage (grade dips) to provide for alternate means of road drainage in the event of culvert plugging.

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

Land 50 % Channel 60 % Roads/Trails 60 % Protection/Safety 70 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	70	80	90
Channel	70	80	80
Roads/Trails	60	70	70
Protection/Safety	90	95	95

E. Cost of No-Action (Including Loss): \$17,853,000*

F. Cost of Selected Alternative (Including Loss): \$14,017,750*

* based on timing of request submittal and likely onset of monsoon season the probability of treatment success and probability of treatment failure were both assigned a value of 0.5

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

See attached list for team members names and resource speciality.

Team Leader: Greg Miller, Carson NF

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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.)

Land Treatments: As outlined above in Item A, land treatments focus on surface protection needs for cultural resources and prevention of expansion or establishment of invasive species/noxious weeds on areas disturbed by fire suppression activities (roads accessed and used by suppression forces, dozer lines, hand lines, drop points, staging areas, ICP) on both the VCNP and Jemez RD lands.

Channel Treatments:

Roads and Trail Treatments: As outlined above in Item A, road treatments for protection of property are focused on preparation of potentially impacted road segments to pass expected flood flows and minimize damage to infrastructure. Culvert clearing, rolling grade dips, armored low water crossing, all help to control road drainage and prevent road damage from storm events. This type of treatment also reduces risk of downstream impacts to water quality and stream channels by controlling drainage from this infrastructure. Placement of warning signs along potentially impacted roads also alerts road users to risks and hazards they may encounter.

Protection/Safety Treatments: As outlined above in Item A, treatments for Protection/Safety are focused on Administrative actions taken to reduce risk to human who may be at risk due to post fire flooding, and hazard trees in various areas of the VCNP and the Jemez RD of the Santa Fe NF. In addition to the human life and health actions, critical infrastructure areas, such as water systems, and cultural and historic resources are targeted with point protection treatments to minimize potential damage to historic structures and pre-historic cultural sites.

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.)

Monitoring of aerial seed and mulch application would occur initially as part of the contract compliance and inspection for adequacy of seed application rate (seeds/sq. foot) and land cover of mulch application. Monitoring of the effectiveness of this treatment should also be planned to evaluate the resulting effect of seed germination and mulch cover protection of the soil surface.

Monitoring would focus on patrol and damage assessment of critical infrastructure, recreational facilities, historic district structures, and cultural sites at risk of flood damage and identify any need for

maintenance and upkeep of land treatments of cultural sites and point protection treatments associated with administrative closures.

Another monitoring need would focus on expansion of known populations or establishment of new populations of invasive species and noxious weeds and point out the need for prompt treatment of these populations with the appropriate method to contain or eliminate invasive/noxious weed populations.

Detailed monitoring plans will be developed as part of implementation of treatments by local staff.

Part VI – Emergency Stabilization Treatments and Source of Funds

PART VII - APPROVALS

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|----|---|-------------------------|
| 1. | <u>/s/Dennis Trujillo</u>
Executive Director, VCNP (signature) | <u>7/8/2013</u>
Date |
| 2. | <u>/s/Joseph Norrell</u>
(for) Forest Supervisor (signature) | <u>7/8/2013</u>
Date |
| 3. | <u>/s/ Gilbert Zepeda (for)</u>
Regional Forester (signature) | <u>8/7/2013</u>
Date |