

Date of Report: 10/01/2014

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: Pony | B. Fire Number: CA-KNF-004500 |
| C. State: CA | D. County: Siskiyou |
| E. Region: 5 | F. Forest: Klamath |
| G. District: Happy Camp/Oak Knoll | H. Fire Incident Job Code: 0505-P5J90516 |
| I. Date Fire Started: 6-7-2016 | J. Date Fire Contained: Expected 10/2/16 |
| K. Suppression Cost: \$20.5 million (source ICS-209, 9/27/16) | |
| L. Fire Suppression Damages Repaired with Suppression Funds | |

- 1. Fireline waterbarred (miles):**
 Total Suppression Repair Completed on Dozer Line: 16.09 miles as of 9-25-16
 Suppression Repair Needed on Dozer Line: 0.54 as of 9-25-16
 Total Suppression Repair Completed on Hand Line: 7.44 miles
 Suppression Repair Needed on Handline: 0 miles
- 2. Fireline seeded (miles): 0**

3. **Other (identify):** All roads, staging areas, water drafting sites, etc. disturbed by suppression activities will be repaired to a condition that is as close to pre-fire condition as reasonably possible. Repairs include grading, back-blading berms, pulling vegetation over disturbed areas, re-shaping spur roads, etc.

M. Watershed Numbers:

Soil Burn Severity Acres by Watershed								
HUC	HUC Name	Very Low Burn Severity (Acres)	Low Burn Severity (Acres)	Moderate Burn Severity (Acres)	High Burn Severity (Acres)	Total Watershed Burned (Acres)	Total Watershed Area (Acres)	Percent Watershed Burned
180102090605	Swillup Creek-Klamath River	367.3	1,365.3	578.3	234.4	2,545.3	15,156.3	16.76%
180102090502	Copper Creek-Dillon Creek	110.2	131.6	11.3	1.8	254.9	25,613.4	1%
180102090501	North Fork Dillon Creek	33.8	34	1.8	0	69.6	21,176	0.3%

Table 1: Watershed numbers and burn severity by acres for the Pony Fire.

N. Total Acres Burned:

☒ NFS Acres ☐ Other Federal ☐ State ☒ Private

Soil Burn Severity Acres by Land Status					
Land Owner	Very Low Severity (Acres)	Low Severity (Acres)	Moderate Severity (Acres)	High Severity (Acres)	Total Burned (Acres)
Klamath NF	511.3	1,531	591.4	236.2	2869.9

Table 2: Burn severity by ownership for the Pony Fire.

O. Vegetation Types: The Pony Fire area is composed of mixed oak-conifer stands with well-developed hardwood understories. California black oak (*Quercus kelloggii* Newberry) and tan oak (*Lithocarpus densiflorus* (Hook. & Arn.) Rehder) are the dominant oaks, with ponderosa pine (*Pinus ponderosa* Lawson & C. Lawson), Douglas-fir (*Pseudotsuga menziesii* Mirb. & Franco) and scattered sugar pine (*Pinus lambertiana* Douglas) as overstory species. The understory was primarily composed of Pacific madrone (*Arbutus menziesii* Pursh.), bigleaf maple (*Acer macrophyllum* Pursh.) incense cedar (*Calocedrus decurrens* (Torr.) Florin), and canyon live oak (*Quercus chrysolepis* Liebm.). Dominant shrubs included manzanita (*Arctostaphylos* spp.), deer brush (*Ceanothus integerrimus* Hook. & Arn.), and snow brush (*Ceanothus velutinus* Douglas ex Hook.).

P. Dominant Soils:

Dominant soils found in the fire are Gilligan-Goldridge, Callum-Goldridge, Gerle family, and Gilligan-Chawanakee. Soils are primarily loam and sandy loam textures with gravelly to extremely gravelly fragment contents. Coarse fragment rock content in the upper soil horizons is variable, averaging approximately 20 percent by volume. Surface gravels and boulders in many areas of the fire are the only remaining source of groundcover. These soils vary in depth – averaging 20 cm – and are mostly in hydrologic groups B, C, and D with the majority having a C rating. This same area burned in 2001 and the remnants of that burn are still present on the landscape.

Q. Geologic Types:

The Pony fire lies within the Klamath Mountains Physiographic Province, and is underlain predominantly by Paleozoic and Mesozoic metavolcanic and metasedimentary rock, along with minor amounts of Quaternary sediments in the valleys. Tectonic processes accreted numerous terranes to the western margin of North America and one of these occurs within the fire area, the Rattlesnake Creek Terrane.

The Rattlesnake Creek Terrane is an accretionary mélange consisting mostly of metavolcanics and highly dismembered ophiolite including slabs of serpentinite and peridotite. Scattered bodies of serpentinite and peridotite diapirs occur within this Terrane, some of which may contain naturally occurring asbestos. The southeastern corner of the fire area is underlain by peridotite bedrock.

This Terrane was intruded by granitic plutons, and one of the largest is the Pony Peak pluton that underlies nearly the entire fire perimeter.

R. Miles of Stream Channels by Order or Class:

Flow Regime by Severity (Miles)						
Flow Regime by Land Status		Very Low Severity (Miles)	Low Severity (Miles)	Moderate Severity (Miles)	High Severity (Miles)	Total (Miles)
Klamath NF	Intermittent	1.4	4.6	1.3	.2	7.4
	Perennial	1.7	2.6	.2	0	4.5

Table 3: Burn severity within stream channels on the Pony.

S. Transportation System

Trails: 29 **FS Roads:** 436 miles **County Roads:** 11 **State:** 1 **Private Roads:** 3

Miles of Roads by Severity					
	Very Low Severity (Miles)	Low Severity (Miles)	Moderate Severity (Miles)	High Severity (Miles)	Total Burned (Miles)
Klamath NF System	.7	1.6	.5	.1	2.9
Non-System Route	.1	.7	.9	.3	1.9

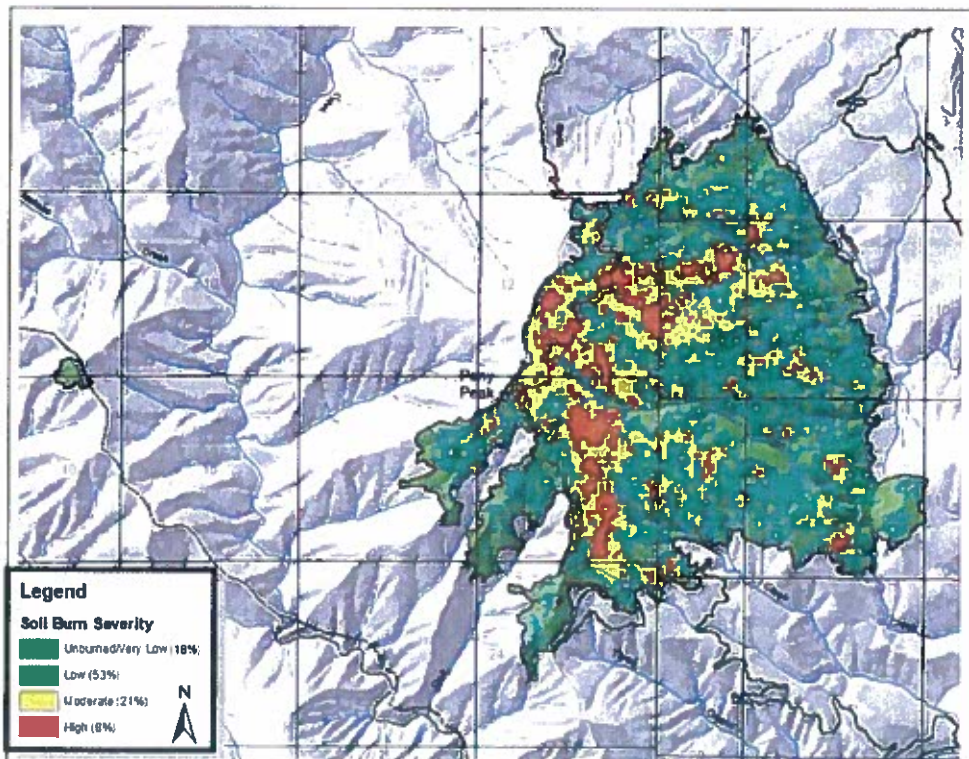
Table 4: Burn severity within road prisms and by ownership on the Pony Fire.

PART III - WATERSHED CONDITION

The Pony Fire has burned 2,870 acres (as of 9-24-2016) south of Happy Camp, CA on the west side of the Klamath River. The entire fire is on the Klamath National Forest and is in several steep, small drainages that flow to the Klamath River or Dillon or Swillup creeks, which also drain to the Klamath. The area is largely part of the Dillon Creek Roadless area and is near the Siskiyou Wilderness.

A. Burn Severity (acres): Unb./very low 511.3 (18%) Low 1,531 (53%)
 Moderate 591.4 (21%) High 236.2 (8%)

Figure 1: Pony Fire soil burn severity



The high and moderate soil burn severity classes have evidence of severe soil heating in a patchy distribution – increased runoff and accelerated erosion are likely. Some of these areas do have good needle-cast potential, which is expected to improve groundcover. The very low to low soil burn severity classes still have good soil structure; contain intact fine roots and organic matter with hydrologic function unaltered.

B. Water-Repellent Soil: Water repellency is present, though not continuous, varying from slight and surficial in all burn classes; thus it is expected to slightly exacerbate runoff production. Little to no hydrophobicity was observed in unburned areas within the fire perimeter.

C. Soil Erosion Hazard Ratings:

Erosion Hazard Rating	Acres in Burned Area	Percent of Burned Area
High	828	29%
Moderate	2042	71%
Grand Total	2870	100%

Table 5: Erosion Hazard Ratings

D. Erosion Potential:

ERMIT Results			
	2 Year Event	5 Year Event	10 Year Event
Tons	44,934	82,783	100,159
Tons/Acre	14.9	25.6	32.2

Table 6: ERMIT model averages for "runoff" events; stated model accuracy is +/- 50%.

E. Sediment Potential: GeoWEPP runs indicate 78% delivery ratio = 20 tons/acre for a 5 year event.

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 2 to 3 years**
- B. Design Chance of Success, (percent): 90%**
- C. Equivalent Design Recurrence Interval, (years): 5**
- D. Design Storm Duration, (hours): 24**
- E. Design Storm Magnitude, (inches): 6**
- F. Design Flow: 170.218 cubic feet per second per square mile**
- G. Estimated Reduction in Infiltration: 3.275%**
- H. Adjusted Design Flow : 175.79 cfs per square mile**

PART V - SUMMARY OF ANALYSIS**A. Describe Critical Values/Resources and Threats (narrative):****Background to Values at Risk:**

The Pony fire started on June 7 2016 and has been at a high-level of containment since mid-July but with minor continued fire activity on the western flanks of the fire in sparsely-vegetated Dillon Creek tributary drainages. Total acreage is less than 3,000. The following is a brief summary of values at risk involved with the Pony Fire area and the threats to those values.

The risk matrix below, Exhibit 2 of Interim Directive No.: 2520-2010-1, was used to evaluate the Risk Level for each value identified during 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

Table 7: BAER magnitude of consequences assessment table.

BAER Critical Value	Value At Risk	Potential Threat	Probability of Damage or Loss	Magnitude of Consequences	Risk	Treatment	Comments
Human Life and Safety/ Property	Homes along Hwy 96 at the bottom of fire watersheds	Debris flow	Possible	Major	High	Private Property: coordinate and share information with NRCS and NWS	
Property	Hwy 96 stream crossings	Debris flow	Possible	Major	High	Coordinate and share information with Cal Trans and the County; consider warning signs	
Property	14N39 Road	Debris flow	Possible	Minor	Low	None: Suppression Repair only	Road has pre-existing issues; needs suppression repair
Property	Unauthorized, non-system road from Pony Peak to 15N30	Erosion and crossing failures	Possible	Minor	Low	None: Suppression Repair; maintain gates and closure	Non-system road ~ not considered "property" for BAER, but stream resource consequences of failure
Property	Trail at bottom of Dark Canyon	Erosion, flooding, debris flow	Unlikely	Minor	Very low	None	No bridge or other structure in this location

Natural Resources	Anadromous fish spawning	Debris flow and/ blockage	Possible	Moderate	Intermediate	No treatment for debris flows; coordinate and share information with Cal Fish and Wildlife	No effective treatment for debris flow mitigation
Natural Resources	Uninfested native plant communities	Introduction and spread of invasive plants	Likely	Moderate	High	Early Detection and Rapid Response	Consider rare plant locations in other BAER treatments as applicable
Cultural Resources	Two possible new archaeological sites	Erosion and flooding	Not assessed				Recommended for delayed assessment

Table 8: Pony fire values at risk, threats, and risk assessment.

Values at Risk Narratives:**1. Human Life and Safety:**

Potential threats to visitors, the recreating public, residents of private lands along State Highway 96 and possibly agency personnel include flooding and debris flows and road failures along road 14N39.

High Risk with a "possible" probability and a "major" magnitude of consequences for private home owners with property along State Highway 96 and the Klamath River at the bottom of watersheds impacted by the fire, those being Swillup, Elliott, Aubrey, and Three creeks.
Treatment: Consultation and information sharing with NRCS and NWS. There are no proven-effective treatments to prevent or mitigate debris flow hazards upon NFS lands above.

2. Property:

Potential threats to private property (homes and infrastructure) along State Highway 96 include flooding and debris flows.

High Risk with a "possible" probability and a "major" magnitude of consequences for private home owners with property along State Highway 96 and the Klamath River at the bottom of watersheds impacted by the fire, those being Swillup, Elliott, Aubrey, and Three creeks.
Treatment: Consultation and information sharing with NRCS and NWS. There are no proven-effective treatments to prevent or mitigate debris flow hazards upon NFS lands above.

Low risk (possible, minor) for the 14N39 Road post suppression repair, which at this time still needs to be completed. *Treatment: None.*

Low risk (possible, minor) for non-system, unauthorized dirt track in mapped roadless area between Pony Peak and road 15N30. *Treatment: None.* Suppression repair and maintaining the gate closures on either end of this "road."

Very low risk (unlikely, minor) for the Dillon Creek Trail at the bottom of Dark Canyon. No structure in this location. *Treatment: None.*

3. Natural Resources:

Native Plant Communities/Ecosystem Stability: High Risk (likely, moderate) to native or naturalized communities on NFS lands where invasive species or noxious weeds are absent or present in minor amounts.

There are no mapped weed infestations occurring within the Pony fire perimeter; however, populations of Scotch broom (*Cytisus scoparius* (L.) Link) and French broom (*Genista monspessulana* (L.) L. Johnson) are known to occur at the bottom of FS road 14N39, the only road that directly accesses the fire area. Additionally, populations of Dyer's woad (*Isatis tinctoria* L.), yellow star thistle (*Centaurea solstitialis* L.), and Italian plumeless thistle (*Carduus pycnocephalus* L.) are known to occur along FS roads 15N19 and 14N21 which accesses areas where contingency fire line was created. Road systems and lands within and adjacent to the fire footprint are susceptible to introduction and spread of invasive species due to the presence of known seed sources. Burned lands are at high risk for invasion and establishment of noxious weeds due to bare mineral soil and high levels of disturbance caused during the Pony incident.

Additionally, the main fire camp was located on private property at the Happy Camp River Park which is known to be infested with meadow knapweed (*Centaurea pratensis* Willd.), Dyer's woad, yellow starthistle, medusahead (*Taenatherum caput-medusae* (L.) Nevski) and cheatgrass (*Bromus tectorum* L.). This park is used regularly as a Camp/Staging area for Emergency Incidents and the presence of known weed infestations at this site creates a high likelihood for noxious weed spread into un-infested areas by equipment and personnel staged at this location.

Scientific Name	Common Name	Number of Sites	KNF Priority
<i>Carduus pycnocephalus</i>	Italian plumeless thistle	1	High
<i>Centaurea solstitialis</i>	Yellow star thistle	1	Moderate
<i>Cytisus scoparius</i>	Scotch broom	12	High
<i>Genista monspessulana</i>	French broom	1	High
<i>Isatis tinctoria</i>	Dyer's woad	1	Moderate

Table 9: Known noxious weed infestations that may have been affected by the Pony incident

Treatments: Treatments to mitigate the noxious weed emergency include initial detection surveys and concurrent treatment (hand-pulling) of any small noxious weed populations located during surveys. Detection surveys will be conducted along completed fire lines, drop points, staging areas, and existing roads where invasion by noxious weeds is most probable. Surveys will start in the un-infested areas on the North perimeter of the fire, and conclude where known noxious weeds are mapped, and become prevalent. Surveys will begin in 2017 during seasonally appropriate times for detection of target noxious weed/invasive plant species.

All newly discovered noxious weed populations will be mapped and entered into the National Resource Inventory System (NRIS) according to National protocol. Treatment will be recorded as directed by the same National protocols. Noxious weed treatment will consist of hand pulling to root depth and if seed is present, plants will be bagged and disposed of properly.

There are two sensitive botanical species known to occur along roads and contingency areas used during the Pony fire incident including: one population of Klamath mountain buckwheat (*Eriogonum hirtellum* J. Howell & Bacigal) and two populations of showy golden banner

(*Thermopsis robusta* Howell). Fire line was constructed through the population of Klamath mountain buckwheat near bear peak. This species typically occurs in serpentine rock outcroppings and may not have been impacted during line construction due to the limited fuels present. Both showy golden banner populations occur along roads used to create contingency fire line. Showy golden banner thrives on disturbance, subsequently impacts from fire traffic were likely beneficial to these populations. Sensitive botanical populations affected by the Pony fire incident will be monitored in 2017 to determine current population viability (Table 10).

Scientific Name	Common Name	Population #	Pre-fire Status
<i>Eriogonum hirtellum</i>	Klamath mountain buckwheat	ERHI7-5-29	Viable, 100 plants, 2005
<i>Thermopsis robusta</i>	Showy golden banner	THRO4-5-3	Viable, 11 plants, 2000
		THRO4-5-9	Viable, 155 plants, 2014

Table 10: Sensitive plant species that may be affected by the Pony Fire

T&E Fisheries Habitat: Intermediate Risk (possible, moderate consequences). Debris flows have a possibility to impact anadromous coho fish spawning habitat, found near the fire area and along Swillup and Dillon creeks, on the east and west margins of the fire, respectively. This threat is derived from the risk of post-fire debris flows as mapped by USGS. However, debris flows are not an event that BAER treatments can prevent or effectively mitigate. *No treatment recommended; Intermediate risk, non-Life & Safety VAR.*

4. Cultural and Heritage Resources:

Not risk assessed: There are no recorded or known heritage resources located within the Pony Fire area. Two possible new sites were discovered during field assessment by the team geologist, but Gap Fire archaeology specialists were unable to assess these Pony Fire sites for potential eligibility status or protection needs. Erosion and flooding are typically the greatest concern to heritage resources; it is unknown if these discovered sites have such threats.

Treatment: delayed assessment. One GS-9 Archaeologist for 1.5 days to assess and document.

B. Emergency Treatment Objectives (narrative):

- Avoid any invasion of noxious weeds into presently un-infested Forest areas.
- Mitigate the effects of fire line construction near known weed infestations and their likely spread onto un-infested Klamath National Forest lands within and adjacent to the fire footprint.
- Avoid the potential introduction of new invasive species and/or spread of existing species by a variety of vectors, including equipment, sling loads, and material sources of straw and gravel into now vulnerable burned habitat.
- Preserve natural conditions and ecological processes by maintaining watersheds in a weed free or minimally infested condition.

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

Land: NA for 2017 EDRR; 90% for delayed archaeology assessment.

Channel: NA

Roads/Trails: NA

Protection/Safety: NA

D. Probability of Treatment Success: 85%

E. Cost of No-Action (Including Loss): Undeterminable; non-market value.

F. Cost of Selected Alternative (Including Loss): \$5055

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Dave Young and Joel Despain

Email daveyoung@fs.fed.us; jddespain@fs.fed.us

Phone: (530) 226 2545 (Young); (530) 934 1152 (Despain)

Team:

Dave Young, Team Leader
 Joel Despain, Team Co-Lead
 Cathy Carlock, Logistics
 Dave McComb, Hydrology
 Jennifer Ford, Hydrology (t)
 Joe Blanchard, Soils
 William Tripp, Soils (t)
 Juan de la Fuente, Geologist
 Dennis Veich, Geologist (t)
 Erin Lonergan, Botany
 Peter Schmidt, Heritage
 Brianna Murphy, Heritage (t)
 Lori Jackson, Engineering
 Ken Bigelow, Engineering
 Bill Wall, Fisheries
 Travis Coughlin, GIS

H. Treatment Narrative:

Treatments to mitigate the noxious weed emergency include initial detection surveys and concurrent treatment (hand-pulling) of any small noxious weed populations located during surveys. Detection surveys will be conducted along completed fire lines, drop points, staging areas, and existing roads where invasion by noxious weeds is most probable. Surveys will start in the un-infested areas on the North perimeter of the fire, and conclude where known noxious weeds are mapped, and become prevalent. Surveys will begin in 2017 during seasonally appropriate times for detection of target noxious weed/invasive plant species.


All newly discovered noxious weed populations will be mapped and entered into the National Resource Inventory System (NRIS) according to National protocol. Treatment will be recorded as directed by the same National protocols. Noxious weed treatment will consist of hand pulling to root depth and if seed is present, plants will be bagged and disposed of properly.

There are two sensitive botanical species known to occur along roads and contingency areas used during the Pony fire incident including: one population of Klamath mountain buckwheat (*Eriogonum hirtellum* J. Howell & Bacigal) and two populations of showy golden banner (*Thermopsis robusta* Howell). Fire line was constructed through the population of Klamath mountain buckwheat near bear peak. This species typically occurs in serpentine rock outcroppings and may not have been impacted during line construction due to the limited fuels present. Both showy golden banner populations occur along roads used to create contingency fire line. Showy golden banner thrives on disturbance, subsequently impacts from fire traffic were likely beneficial to these populations. FS sensitive species are not BAER critical values; however they will be considered during botany clearance for BAER implementation activities.

Part VI –Emergency Stabilization Treatments and Source of Funds

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										
<i>Invasive Weed Treatments</i>	1	\$ 5,055	1	\$5,055						\$5,055
<i>Delayed Assessment (Arch)</i>	day	\$ 316	1.5	\$474						\$474
<i>Insert new items above this line!</i>										
B. Road and Trails										
<i>No Treatments</i>				\$0						
<i>Insert new items above this line!</i>										
C. Protection/Safety										
<i>No Treatments</i>				\$0						
<i>Insert new items above this line!</i>										
E. BAER Evaluation										
<i>1 day full team assessment</i>	Each	\$ 8,189	1	\$8,189						\$8,189
<i>Insert new items above this line!</i>										
<i>Subtotal Evaluation</i>				\$8,189						\$8,189
G. Totals				\$5,529						\$5,529
Previously approved				\$0						
Total for this request				\$5,529						\$5,529

PART VII - APPROVALS

1. 
Forest Supervisor (Klamath NF) (signature)

29 Sept 2016
Date

2. 
R5 Regional Forester (signature)

10/6/16
Date

