

2013 MOUNTAIN FIRE

BURNED AREA

EMERGENCY RESPONSE PLAN

AGUA CALIENTE BAND of CAHUILLA INDIANS

BUREAU OF INDIAN AFFAIRS

BUREAU OF LAND MANAGEMENT



PALM SPRINGS, CALIFORNIA

AUGUST 2013



BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

AGENCY/UNIT: Bureau of Indian Affairs
Agua Caliente Band of Cahuilla Indians

LOCATION: Palm Springs, California

DATE: August 2, 2013

PREPARED BY: Burned Area Emergency
Response Team (Clifford)



Apache Peak

Submitted By: _____
T.J. Clifford, BAER Team Leader, BLM – Boise, ID

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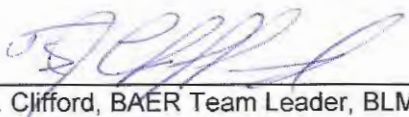
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BURNED AREA EMERGENCY RESPONSE PLAN
2013 MOUNTAIN FIRE

REVIEW AND APPROVAL -- BUREAU OF INDIAN AFFAIRS

I. EMERGENCY STABLIZATION PLAN APPROVAL

- ☐ **Approve**
- ☐ **Approve with Revision**
- ☐ **Disapproved**

Explanation for Revision or Disapproval:

Ollie Beyer, Superintendent, Palm Springs Agency, BIA

Date

I. EMERGENCY STABLIZATION PLAN CONCURRENCE

- ☐ **Concur**
- ☐ **Concur with Revision**
- ☐ **Disapproved**

Explanation for Revision or Disapproval:

Amy Dutschke, Regional Director, Pacific Region, BIA

Date

II. EMERGENCY STABILIZATION PLAN CONCURRENCE

- ☐ **Concur**
- ☐ **Concur with Revision**
- ☐ **Disapproved**

Explanation for Revision or Disapproval:

Lyle Carlile, Director, Branch of Wildland Fire Management, BIA

Date

BURNED AREA EMERGENCY RESPONSE PLAN

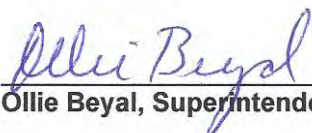
2013 MOUNTAIN FIRE

REVIEW AND APPROVAL -- BUREAU OF INDIAN AFFAIRS

I. EMERGENCY STABLIZATION PLAN APPROVAL

- ☒ **Approve**
- ☐ **Approve with Revision**
- ☐ **Disapproved**

Explanation for Revision or Disapproval:


Ollie Beyal, Superintendent, Palm Springs Agency, BIA

8/2/2013
Date

I. EMERGENCY STABLIZATION PLAN CONCURRENCE

- ☐ **Concur**
- ☐ **Concur with Revision**
- ☐ **Disapproved**

Explanation for Revision or Disapproval:

Amy Dutschke, Regional Director, Pacific Region, BIA

Date

II. EMERGENCY STABILIZATION PLAN CONCURRENCE

- ☐ **Concur**
- ☐ **Concur with Revision**
- ☐ **Disapproved**

Explanation for Revision or Disapproval:

Lyle Carlile, Director, Branch of Wildland Fire Management, BIA

Date

BURNED AREA EMERGENCY STABILIZATION PLAN EXECUTIVE SUMMARY

2013 Mountain Fire
August 2, 2013

Introduction

This Emergency Stabilization Plan addresses effects resulting from the Mountain Fire that burned on lands managed by the Agua Caliente Band of Cahuilla Indians (ACBCI) BIA and the Bureau of Land Management (BLM). This plan has been prepared in accordance with the *U.S. Department of the Interior, Departmental Manual, Part 620, Chapter 3 (Wildland Fire Management)*, and *Interagency Burned Area Emergency Response (BAER) Guidebook (February, 2006)*.

The assessment used the following objectives to focus analysis within the Mountain Fire Burned Area Emergency Stabilization Plan:

- Human Life and Safety: to prescribe post-fire mitigation measures necessary to protect human life and property.
- Threatened & Endangered Species Habitat Stabilization: To prevent permanent impairment of Federal Threatened and Endangered species habitat.
- Critical Heritage Resources: To stabilize and prevent damage to known critical heritage resources.
- Invasive Plants: To deter the establishment and spread of noxious and invasive species.

A wide array of treatment options were considered to attain the above objectives and 8 treatment specifications were considered feasible. Assessments and prescribed treatments apply to lands under the jurisdiction of the Bureau of Indian Affairs (Palm Springs Agency), the Agua Caliente Band of Cahuilla Indians (ACBCI) and the Bureau of Land Management (Palm Springs Field Office).

Background

The Mountain Fire started on July 15, 2012 and consumed a total of 27,531 acres across Riverside County, CA. A majority of the fire burned within the Santa Rosa – San Jacinto Mountains National Monument. Monsoonal rains have fallen over portions of the fire (July 21, 2013) resulting in minor sediment and debris flows in some drainages on both sides of the San Jacinto mountain range. The following table illustrates the jurisdictions impacted by the Mountain Fire, however the National Interagency BAER team was responsible for assessing about 5,783 acres of ACBCI lands and 2,443 acres of BLM lands that were burned by the fire.

Table 1 – Summary of acres burned within the Mountain Fire in categories of burn severity.

Land Administrator	Soil Burn Severity (acres)				
	High	Low	Moderate	Unburned	Grand Total
Bureau of Indian Affairs, ACBCI	28	1,986	2,307	1,462	5,783
Bureau of Land Management	7	1,027	455	952	2,443
California Dept. of Parks and Recreation	39	701	145	6	892
San Bernardino National Forest	274	4,538	9,158	507	14,477
Other Lands (incl. private)	16	8,252	1,528	768	3,937
Grand Total	366	9,877	13,593	3,717	27,531

The National Interagency BAER Team (BAER) assembled in Palm Springs to assess the incident on July 24, 2013. On Thursday, July 25th, an in-briefing was held with staff from the Bureau of Land Management's Palm Springs-South Coastal Field Office (BLM). On Friday, July 26th, an in-

briefing was held with staff and members of the tribal council from the Agua Caliente Band of Cahuilla Indians (Tribe), and the superintendents from the BIA Palm Springs and Southern California Agencies. At the close of the in-briefing, BAER team members met with Tribal staff to discuss and strategize field assessments.

Issues identified during the agency in-briefings included water quality, natural spring blockage, increased toxicity, runoff associated with monsoonal or winter precipitation, flooding, impacts to native vegetation, road infrastructure, irrigation diversion structures, stream gages, cultural resources within alluvial fans, Jo Pond Trail, canyons, public safety, Peninsular Bighorn Sheep, California red-legged frog, Mountain yellow-legged frog, least Bell's vireo, Coachella Valley fringe-toed lizard, Coachella Valley milk-vetch, invasive plant species, noxious weeds, and Maynard Mine.

In the process on completing assessments and developing treatment prescriptions numerous contacts were made with federal agency employees, tribal officials and employees, local residents, and the USFS BAER team working out of the Idyllwild Ranger Station. Various individuals from ACBCI and BLM assisted the BAER Team throughout the assessment and planning process. The BAER field assessments were conducted between July 26th and July 30th, 2013. The field groups consisted of the DOI BAER team members, tribal rangers, and representatives from other agencies.

A meeting was held on Wednesday, July 31, 2013 in the field to tour all of the treatment sites with local agency and tribal representatives. This meeting included tribal council members for the purpose of facilitating an emergency resolution to implement treatments through 638 contracting as soon as approval was received. A close-out briefing with Tribal and Bureau officials was conducted on August 2, 2013. Findings and recommendations identified and developed by the Team were presented at this meeting.

The BAER Team consisted of individuals representing the following disciplines: Team Leader, Deputy Team Leader, Hydrology, Geology, Soil Science, Cultural Resources, Wildlife Biologist, Environmental Compliance, Documentation and Geographic Information Systems. The Mountain DOI BAER Team coordinated with the Mountain USFS BAER Team to develop burn severity, model streamflow and sediment delivery, and model the risk of debris flows within the watersheds impacted by the fire. These products were used to guide field assessment of the issues identified by the local agencies. The team tracked these issues during their assessment to determine values that were threatened. The team evaluated whether there was a standard treatment that could be implemented to mitigate or reduce the threat to those threatened resources. The following values were found to be threatened as a result of the Mountain Fire:

1. Native vegetation
2. Peninsular Bighorn Sheep
3. Stream gaging sites
4. Irrigation diversions
5. Road infrastructure
6. Trail infrastructure
7. Public safety
8. Recreation Day-use sites
9. Cultural Sites

Issue 1 - Human Life and Safety.

- The Trading Post along the West Fork Palm Canyon is a day use area owned and administered by the Agua Caliente Band of Cahuilla Indians. This popular destination provides hiking trails from the Trading Post up West Fork Canyon, some of which are in

the drainages. There are no structures at risk, but flash flooding events in post-fire watershed conditions could put employees and the public at substantial risk.

- The Andreas Day Use Area along Andreas Canyon is owned and administered by the Agua Caliente Band of Cahuilla Indians and receives a large amount of visitors. The day use area is built in the floodplain of Andreas Canyon and visitors, employees, and infrastructure are at risk to flooding. An irrigation diversion at the gage station is at risk to plugging from flooding.
- Roads and culverts owned and maintained by the Agua Caliente Band of Cahuilla Indians below West Fork Palm, Murray, and Andreas Canyons are at risk from flooding.

Issue 2 - Soil/Water Stabilization.

On-the-ground field observations were conducted to determine potential watershed response. Observations included the soils, vegetation, soil burn severity, topography, lithology, climate, stream channel and hillslope response to recent precipitation events. Observations also included volume of sediment and debris stored in channels and on slopes that have been or could be mobilized. Channel morphology related to transport and deposition processes were noted, along with channel crossings and stream outlets.

Hillslopes and channels affected by the fire are comprised of a combination of soil types, burn severity classes, slopes, and pre-fire vegetation types. The potential for erosion has increased due to the area of moderate burn severity in the watershed.

Table 2. Modeled post-fire sediment increases relative to pre-fire conditions.

Watershed	Modeled Sediment Increases	
	10 yr, 1 hr event	5 yr, 6 hr event
West Fork Palm	187%	147%
Murray	223%	218%
Andreas	67%	63%
Tahquitz	0%	0%

The likelihood of generating overland flow and stream flow in the watersheds following this fire has increased. Peak flow increases from the fire may also be augmented by sediment and debris within the active channel areas.

The drainages of concern for lands assessed by the DOI BAER Team were West Fork Palm and Andreas Canyon due to the percentages of the watersheds burned, and proximity to downstream values at risk. A significant increase in runoff (Table 3), erosion, sediment (Table 2) and debris delivery is possible within the watersheds and stream channels of the West Fork of Palm Canyon, Murray Canyon, and Andreas Canyon based on its larger watershed and higher degree of hillslope steepness.

Table 3. Modeled post-fire peak flow increases relative to pre-fire conditions.

Watershed	Modeled Peak Flow Increases	
	10 yr, 1 hr event	5 yr, 6 hr event
West Fork Palm	98%	77%
Murray	97%	105%
Andreas	41%	38%
Tahquitz	0%	0%

Watershed response from the Mountain Fire depends on the specific precipitation events that occur following the fire. If rain events are high in intensity or total rainfall amount, similar to storms experienced in the area in the past, the watershed response can be expected to include similar damaging events, such as significant flash flooding that could damage property and infrastructure. The potential for increased threats from flooding can extend miles downstream.

Issue 3 - Habitat for Federal/State Listed, Proposed, or Candidate Species.

Information used in this assessment was generated from review of relevant literature, recovery and management plans, GIS databases, and discussion with species experts and natural resource managers from the ACBCI, BLM, USFS, USFWS and BAER team members. Field reconnaissance consisted of on-site inspection of fire impacted habitats on tribal trust lands, known occurrence sites, and areas downstream of fire perimeters that could potentially be impacted by sediment and debris flows. Field reconnaissance was conducted July 28 through July 30, 2013. In addition, an aerial reconnaissance flight was conducted from helicopters in order to assess inaccessible areas and gain a landscape level perspective on fire effects.

The two species of most concern within the burned area are the federally listed species of Peninsular Bighorn Sheep (PBS) and the culturally sensitive species of southern yellow bat. Mortality to PBS (on the east side) is unlikely based on slow moving fire behavior, preferred habitat types and elevations, and their ability to move quickly to safe ground. However, PBS will experience a temporary loss of habitat as a result of the Mountain Fire. Foraging areas, water sources, and lambing areas will be negatively affected in the short term. The primary concern for land managers and biologists will be the potential impact to drinking water sources. In the arid desert environment, water is critical to survival and reproductive success. PBS use perennial and ephemeral springs and pools in the drainages impacted by the Mountain Fire. Because the upper watershed was burned, sediment, ash, and debris are expected to travel down slope and down drainage for the next two to three years.

Southern yellow bats have been recorded in Palm, Andreas, and Murray canyons on the Reservation. The southern yellow bat is not federally listed but has been designated as a Tribal sensitive species. If southern yellow bats were roosting in palm fronds within the fire area when individual stands of palms were engulfed by the flame front, mortality is likely. The dead fronds in which they roost are extremely flammable and there is little nearby cover that they could fly to for shelter. However, the fire did slowly back down the eastern slopes within the fire perimeter. If stands were engulfed during the night the bats would have likely been foraging away from palm stand and could have flown to shelter outside of the fire. Because palms do not respond well to fire, the impacts to roosting sites should be temporary.

Issue 4 - Critical Heritage Resources.

The BAER cultural assessment was conducted between July 27th and July 30th, 2013. The cultural resources group consisted of the DOI BAER team archeologist, the archeologist for the BLM and the Tribe's archeologist accompanied by various tribal rangers, and the Tribe's Tribal Historic Preservation Officer (THPO). Fieldwork activity focused on: 1) cultural values at risk in the West Fork Palm Canyon watershed and 2) cultural values at risk located on the alluvial fan below Andreas and Murray Canyons.

The cultural resources assessment resulted in the determination that the majority of the sites are not at risk from post-fire flooding or other effects. Two sites were identified to be at a high risk of degradation from post-fire effects and treatments have been designed to mitigate the severity of such effects, should they occur. Several treatments designed to address other values at risk may have the potential to affect cultural resources. The BIA is the agency responsible for consulting with the Tribe's THPO as required under Section 106 of the National Historic Preservation Act to ensure that significant cultural resources will not be adversely affected by these treatments.

Issue 5 - Invasive Plants and Weeds.

Based on review of burn severity maps and initial reconnaissance flights of the fire, it was determined that long term negative impacts to natural vegetative regrowth would be minimal. See the Watershed Assessment section in this document for a thorough discussion of burn severity. There were several sites in West Palm and Andreas Canyons where fire intensities were moderate to high and could show slow recovery. These sites will be more prone to invasion by noxious weeds. Over most of the fire on ACBCI and BLM lands soil burn severity was relatively low. This means root crowns and the seed bank will likely remain viable. Most of the shrub species recover from epicormic roots or adventitious buds—sprouting from underground roots or buds, although reproduction from seed also occurs. On soils that did not experience long residency time from the fire, seeds below the surface should grow providing climatic conditions are favorable through the spring of 2014. In short, it appears that natural recovery should occur across most of the fire area. The loss of native vegetation, weed seed production, and positive affect of fire on many invasive species make burned areas susceptible to colonization by those weeds present in the system and those brought in by visitors.

Fountain grass (*Pennisetum setaceum*), Saharan Mustard (*Brassica tournefortii*), castor bean (*Ricinus communis*), Tamarisk (*Tamarix* spp.), and spear grass (*Stipa capensis*) were identified to occur within the fire perimeter and represent the greatest threat to colonize recently burned areas. ACBCI rangers are actively treating these species in W. Palm, Murray, Andreas, and Tahquitz canyon using manual and chemical methods (See Treatment Map). There is a high likelihood that weed seeds will be transported to burned areas where they did not previously occur through downstream sediment deposition, debris flows, and introduction by the public on trails, roads, and day use areas.

The following treatment specifications were based on the threatened values listed above and are planned for implementation as soon as the approval for funding has been received.

Table 4 – Recommended Emergency Stabilization Treatments

1. Andreas Canyon Infrastructure Protection	Facility & Infrastructure
2. Road Debris Removal	Roads
3. Flood Warning: Signs and Hazard Warnings	Roads
4. Invasive Weed Detection / Control	Invasive Species
5. Cultural Site Protection	Heritage Resources
6. Spring Protection	Wildlife Habitat
7. Culverts and Ditch Debris Removal	Roads
8. Cultural Site Stabilization	Heritage Resources

NEPA Compliance

All proposed BAER treatment actions on Tribal trust, BIA, or BLM lands must comply with environmental laws, regulations, policies, and local agency planning documents. This assessment determined that all proposed treatments qualify as Categorical Exclusions under NEPA and BIA policies or were determined to be NEPA compliant on BLM lands. Consultation with the Tribal Historic Preservation Office (THPO) will be required for treatments. Initial consultation with both Reservation THPOs for National Historic Preservation Act compliance and the US Fish and Wildlife Service for Endangered Species Act compliance was also completed. A compliance package is included in this report, and becomes effective when signed by the Agency Decision-makers.

The results of this planning process are documented in Resource Assessments found in Appendix I and detailed treatment specifications located in Part F. A summary of treatment costs can be found in Part E, Cost Summary Table. Appendix II contains the environmental compliance documentation prepared in accordance with the requirements of the National Environmental Policy Act (NEPA). This appendix evaluates the consistency of proposed actions with existing programmatic NEPA documents. All proposed actions are either categorically excluded from further NEPA analyses, or are evaluated in existing land management plans. Appendix III contains photographic documentation of fire effects and Appendix IV contains BAER Plan Maps produced to assist with resource damage assessments. Appendix V contains supporting documentation for the plan.

BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

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BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

PART A FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	MOUNTAIN	Date Controlled	UNKNOWN
Fire Number	CA-SCA-10364	Jurisdiction	Acres
Agency Unit	Palm Springs	BIA	5,783
Region	Pacific	BLM	2,443
State	California	USFS*	14,477
County	Riverside	CDPR*	892
Ignition Date/Manner	July 15,2013 / Man Caused	OTHER*	3,936
Zone			
Date Contained	July 30, 2013	TOTAL ACRES	27,531

*not accessed as part of this plan

PART B NATURE OF PLAN

I. Type of Plan (check one box below)

☒	Short-term Emergency Stabilization Plan
☐	Long-term Rehabilitation
☐	Both Long and Short-term Rehabilitation

II. Type of Action (Check One box below)

☒	Initial Submission
☐	Updating Or Revising The Initial Submission
☐	Supplying Information For Accomplishment To Date On Work Underway
☐	Different Phase Of Project Plan
☐	Final Report (To Comply With The Closure Of The EFR Account)

EMERGENCY STABILIZATION OBJECTIVES

- Determine need for and to prescribe and implement emergency treatments
- Minimize Threats to Human Life, Safety, and Property
- Identify Threats to Critical Cultural & Natural Resources
- Promptly Stabilize and Prevent Unacceptable Degradation to Resources

PART C - TEAM ORGANIZATION

BAER TEAM MEMBERS

POSITION	TEAM MEMBER / AFFILIATION
Team Leader	T.J. Clifford, BLM
Team Deputy	Gavin Lovell, BLM
Team Advisor, NIFC	Darryl Martinez, BIA
Soil Scientist	Tedd Huffman, USFS
Hydrologist	Becky Biglow
Geologist	Brian Rasmussen, NPS
Cultural Resources	Dan Hall, BIA Katie Eskew, Agua Caliente Tribe George E. Kline, BLM
GISS	Anthony Thompson, BIA Rachel Endfield, BIA
Automated Geospatial Watershed Assessment	Doug Wilder, NPS Shea Burns, USDA_ARS Gabriel Sidman, USDA_ARS
Documentation	Wayne Waqui, BIA
Environmental Compliance	Maja Pepion, BIA
Wildlife Biologist	Kenneth Griggs, FWS

Resource Advisors: (Note: Resource Advisors are individuals who assisted the BAER Team with the preparation of this plan. See the consultations Section of this plan for a full list of agencies and individuals who were consulted or otherwise contributed to the development of this plan.

Name	Affiliation	Specialty
Margaret Muhr	Agua Caliente Tribe	Emergency Services Manager
Margaret E. Park	Agua Caliente Tribe	Planning and Natural Resources
Tom Kylee	Agua Caliente Tribe	Risk Management Specialist
Patricia Garcia	Agua Caliente Tribe	Cultural Heritage
Ralph Kato	Agua Caliente Tribe	Director of Tribal Lands
Ralph Rodriguez	Agua Caliente Tribe	Tribal Ranger
Daniel Lara	Agua Caliente Tribe	Tribal Maintenance
Mike Herman	Agua Caliente Tribe	Tribal Ranger
Bob Hepburn	Agua Caliente Tribe	Tribal Ranger
Chris Castro	Agua Caliente Tribe	Tribal Ranger
Joyce Schlachter	BLM	Wildlife Biologist
Jim Foote	BLM	Monument Manager
James Gannon	BLM	Prescribe Fire and Fuels
Paul Lake	NRCS	District Conservationist
John Taylor	FWS	Biologist
Geary Hund	FWS	Biologist
Kim Boss	USFS	Wildlife Biologist
Ken Ryan	Andreas Canyon Club	Caretaker
Rob Balfour	National Weather Service	
Alexander Tardy	National Weather Service	

CONSULTATIONS

***** SEE INDIVIDUAL RESOURCE ASSESSMENTS APPENDIX I , SECTION V, CONSULTATIONS**

PART D **TREATMENT COSTS BY AGENCY AND FIRE**

2013 MOUNTAIN FIRE

AGENCY	TREATMENT			TOTAL
BIA	EMERGENCY STABILIZATION			
1	Andreas Canyon Infrastructure Protection			\$22,120
2	Road Debris Removal			\$25,080
3	Flood Warning: Signs and Hazard Warnings			\$19,380
4	Invasive Weed Detection / Control			\$18,295
5	Cultural Site Protection			\$1,145
6	Spring Protection			\$4,920
7	Debris Removal from Culverts and Ditches			\$38,670
8	Cultural Site Stabilization			\$64,600
	Plan Cost			\$114,297
	ACBCI Fieldwork Support			\$7,852
BIA TOTAL				\$316,359

PART D **TREATMENT COSTS BY AGENCY AND FIRE**

AGENCY	TREATMENT			TOTAL
BLM	EMERGENCY STABILIZATION			
4a	Invasive Weed Detection / Control			\$15,000
6a	Spring Protection			\$4,920
BLM TOTAL				\$19,920

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BURNED AREA EMERGENCY RESPONSE PLAN

EMERGENCY STABILIZATION (ES) SPECIFICATION

PART E – SUMMARY OF ACTIVITIES – COST SUMMARY TABLE – BUREAU OF INDIAN AFFAIRS

TREATMENT SPECIFICATION	NFPORS CAT.	UNIT	UNIT COST	# OF UNITS	FISCAL YEAR		SPECIFICATION TOTAL
					2013	2014	
Palm Springs Agency							
1. Andreas Canyon Infrastructure Protection	Facility & Infrastructure	Structure	\$7,373	3	\$22,120		\$22,120
2. Road Debris Removal	Roads	Events	\$5,016	5	\$5,016	\$20,064	\$25,080
3. Flood Warning: Signs and Hazard Warnings	Roads	Signs/ Kiosk	\$1,077	18	\$19,380		\$19,380
4. Invasive Weed Detection / Control	Invasive Species	Acres	\$146	125	\$3,980	\$14,315	\$18,295
5. Cultural Site Protection	Heritage Resources	Site	\$1,145	1	\$1,145		\$1,145
6. Spring Protection	Wildlife Habitat	Springs	\$615	8	\$1,230	\$3,690	\$4,920
7. Culverts and Ditch Debris Removal	Roads	Events	\$6,445	6	\$12,890	\$25,780	\$38,670
8. Cultural Site Stabilization	Heritage Resources	Structure	\$9,229	7	\$64,600		\$64,600
TOTAL					\$130,361	\$63,849	\$194,210

2013 MOUNTAIN FIRE
BURNED AREA EMERGENCY RESPONSE PLAN
EMERGENCY STABILIZATION (ES) SPECIFICATION
PART E – SUMMARY OF ACTIVITIES – COST SUMMARY TABLE – BUREAU OF LAND MANAGEMENT

TREATMENT SPECIFICATION	NFPORS CAT.	UNIT	UNIT COST	# OF UNITS	FISCAL YEAR		SPECIFICATION TOTAL
					2013	2014	
Palm Springs–South Coast Field Office							
4a. Invasive Weed Detection / Control	Invasive Species	Acres	\$125	120		\$15,000	\$15,000
6a. Spring Protection	Wildlife Habitat	Springs	\$615	8	\$1,230	\$3,690	\$4,920
TOTAL					\$1,230	\$18,690	\$19,920

BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

PART F EMERGENCY STABILIZATION SPECIFICATIONS



Trail Bridge - West Fork Palm Canyon

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Andreas Canyon Infrastructure Protection	PART E Spec-#	1
NFPORS TREATMENT CATEGORY*	Facility & Infrastructure	FISCAL YEAR(S) (list each year):	2013 / 2014
NFPORS TREATMENT TYPE *	Stabilize/Secure/Protect Structures	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Agua Caliente Band of Cahuilla Indians	IMPACTED T&E SPECIES	None

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

- A. General Description:** Stream flow and sediment and debris transport is expected to increase in Andreas Canyon as a result of the Mountain Fire, and infrastructure protection and channel containment strategies are specified for the Andreas and Murray Canyons Parking Area.
1. Boulder and installation on north bank of Andreas Canyon stream channel to contain flood debris.
 2. Stream crossing overflow containment berm improvement on the north side of Andreas Creek culvert crossing.
 3. Rolling dip construction (quantity: 1)
 4. Remove floatable items from parking area during storm seasons, such as picnic tables, trash cans, and portable outhouses.
- B. Location/(Suitable) Sites:**
1. **Boulders:** North side of Andreas Canyon Creek up-canyon of parking area, 77 feet up-canyon of USGS stream gage. Boulders shall be placed across footpath on the North bank of Andreas Canyon stream
33°45.660" N, 116°33.005" W
 2. **Stream crossing overflow containment berm:** North side of Andreas Canyon double-culvert crossing of parking / trailhead road, accessing Murray Canyon Trail.
33°45'38.67" N, 116°32'57.96" W
 3. **Rolling dip:** at road –trail crossing on Andreas Canyon Parking access road, at beginning of pavement, approximately 300 feet below restroom facilities.
33°45'39.15" N, 116°32'53.86" W
 4. **Picnic table / trash can / portable outhouse removal:** North and south sides of Andreas Canyon stream in the Day Use / Parking area
- C. Design/Construction Specifications:**
1. a. Place row of four angular boulders greater than 4 feet in diameter across the footpath on the north bank of Andreas Canyon stream
b. Boulders shall be keyed-in to the existing ground surface to a 1-foot depth.
c. Boulders shall be placed immediately adjacent to each other, with the exception of one space between boulders 3 feet wide to allow for pedestrian and ADA accessibility
 2. a. Improve overflow berm
b. Raise elevation of existing berm 1 ft.
c. Construct addition to existing berm with material brought in from off-site to avoid ground disturbance at the location of the berm
d. Construct berm to have a minimum width of 6 feet
 3. a. Construct rolling dip at road–trail crossing, adding a berm with a height of 18 inches above existing elevation of road surface and a minimum width of 12 feet to ensure road drainage into ephemeral stream channel adjacent to road on to south.
b. Construct rolling dip with material brought in from off-site to avoid ground disturbance at the location of the berm.
c. Mix silt and fines from off-site into berm of rolling dip from off-site to ensure compaction.
d. Construct berm in multiple lifts of material mixed with 10-15% water. Compact each lift to reinforce berm.
e. Pave rolling dip and berm with asphalt
 4. Remove floatable items from parking area during storm seasons, such as picnic tables, trash cans, and portable outhouses.
- D. Purpose of Treatment Specifications (relate to damage/change caused by fire):** To protect infrastructure from effects from increased stream flow as a result of the Mountain Fire.
1. Boulders: to direct water back into the channel and to the southern floodplain to protect water diversion intake and streamflow gage from expected post-fire flows and debris in Andreas Canyon.
 2. Stream crossing overflow containment berm: to protect parking lot, restroom and trash collection structures from overflow of Andreas Canyon creek expected from plugging of culvert crossing.
 3. Rolling dip: to protect paved road and downslope cultural sites from potential degradation caused by increased stream flows and overland runoff.
 4. Removal and floatable items from parking area: to prevent items from entering the stream, scattering of litter, damage to the landscape from mobilization in the event of a flash flood.
- E. Treatment consistent with Agency Land Management Plan (identify which plan):** Agua Caliente Band of Cahuilla Indians - Indian Canyons Master Plan, May 2008

F. Treatment Effectiveness Monitoring Proposed: Evaluate the following infrastructure twice annually for impacts from flood flows

1. Diversion intake
2. Culvert crossing of Andreas Canyon and surrounding fill and armoring
3. Restroom and trash collection structures and installations
4. Andreas Canyon Day Use / Parking Area Access Road – inspect for evidence of erosion down road below installed rolling dip (Installation 3.)

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
1 Equipment operator @ \$40/hour x 30 hours	\$1,200
5 Hand Laborers @ \$20/hour x 20 hours	\$2,000
1 Tribal Ranger for Treatment Effectiveness Monitoring @ \$40/hour x 8 hours	\$320
TOTAL PERSONNEL SERVICE COST	\$3,520
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Equipment rental and operator:	
Excavator: \$100/hour x 30 hours	\$3,000
D6 Dozer/Grader: \$100/hour x 30 hours	\$3,000
Transport: \$800/day x 3 days	\$2,400
Dumptruck: \$100/hour x 30 hours	\$3,000
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$11,400
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Four boulders > 4 feet in diameter	\$500
Fill material (compactable silt & fines): Two 16 cubic yard truckloads @ \$350/truckload	\$700
TOTAL MATERIALS AND SUPPLY COST	\$1,200
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Asphalt paving	\$6,000
TOTAL CONTRACT COST	\$6,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	08/01/2013	09/30/2013	S	Days	\$7,373	3	\$22,120
TOTAL							\$22,120

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

Treatment Specification 1 – Andreas Canyon Infrastructure Protection (*continued*)

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	E
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	E
4. Estimates based upon government wage rates and material cost.	E
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix IV Treatment Map, Appendix I Watershed Assessment

Treatment Specification 1 – Andreas Canyon Infrastructure Protection - Plan Drawing

Location: Andreas Canyon / Murray Canyon Day Use / Parking Area



Berm

Stream channel

- Treatment Installations:
- 1. Boulders
 - 2. Stream crossing overflow containment berm
 - 3. Rolling dip

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Road Debris Removal	PART E Spec-#	2
NFPORS TREATMENT CATEGORY*	Roads	FISCAL YEAR(S) (list each year):	2013 & 2014
NFPORS TREATMENT TYPE *	Hazard Removal	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Agua Caliente Band of Cahuilla Indians	IMPACTED T&E SPECIES	none

* See NFORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description: Post-fire flooding may deposit debris on the road surfaces creating a risk to driving or make the road impassable to traffic. Paved and earthen roads below West Fork Palm, Andreas, and Murray Canyons should be inspected after storm events and cleared as necessary.

B. Location/(Suitable) Sites: Paved and earthen roads at and downstream of West Fork Palm, Murray, and Andreas Canyons.

C. Design/Construction Specifications: Remove flood debris from roads using heavy equipment (front loader and dump truck) and haul debris away. Specification provides for one debris removal event in 2013 and four debris removal events in 2014. Haul removed material to a place away from streams and floodplains. Debris removal will require a front loader and a dump truck. Debris should be transported away from the sites and stored in an area away from streams and floodplains.

D. Purpose of Treatment Specifications (relate to damage/change caused by fire): Post-fire watershed conditions may flood streams depositing debris on road surfaces causing unsafe driving conditions.

E. Treatment consistent with Agency Land Management Plan (identify which plan): Tribal Fire Management Plan 2007.

F. Treatment Effectiveness Monitoring Proposed:

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).		COST / ITEM
TOTAL PERSONNEL SERVICE COST		
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.		
Equipment rental including delivery – Front End Loader @ \$75/hr. x 60 hr. x 2 FY		\$9,000
Equipment rental – Dump Truck @ \$40/hr. x 60 hr. x 2 FY		\$4,800
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST		\$13,800
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):		
Diesel Fuel @ \$4.20/gallon x 200 gallons x 2 FY		\$1,680
TOTAL MATERIALS AND SUPPLY COST		\$1,680
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):		
TOTAL TRAVEL COST		
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):		
2 Heavy Equipment Operators - \$40/hr. x 60 hr. x 2 FY		\$9,600
TOTAL CONTRACT COST		\$9,600

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	8/1/2013	9/30/2013	S	Debris Removal Events	\$5,016	1	\$5,016
2014	10/1/2013	August 2014	S	Debris Removal Events	\$20,064	4	\$20,064
TOTAL							\$25,080

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	C E M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix I Watershed Assessment, Appendix IV Treatments Map.
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PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Warning Signs	PART E Spec-#	3
NFPORS TREATMENT CATEGORY*	Roads	FISCAL YEAR(S) (list each year):	2013 & 2014
NFPORS TREATMENT TYPE *	Signs	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Agua Caliente Band of Cahuilla Indians	IMPACTED T&E SPECIES	none

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

- A. General Description:** Post-fire flooding may endanger the public and tribal employees along roads and in day use areas. Recommended are installation of nine flood warning signs along roads and three information kiosks at the Trading Post, Andreas Day Use Area, and Tahquitz Canyon Visitor Center. Also provided are six extra flood warning signs to replace damaged or vandalized signs.
- B. Location/(Suitable) Sites:** Paved and earthen roads at and downstream of West Fork Palm, Andreas, and Murray Canyons and the Trading Post at West Fork Palm Canyon. Kiosks are installed at the Trading Post on West Fork Palm Canyon, Andreas Day Use area, and Tahquitz Canyon Visitor Center.
- C. Design/Construction Specifications:** Road signs should meet tribal and California Department of Transportation specifications. See Appendix IV Treatment Map in BAER plan for recommended site locations for road hazard signs. Suggested sign design may look like the figure provided below:



The kiosks should be designed to match other kiosks in each given area and positioned to attract visitors. The information provided on each kiosk should include: a map of the area including roads, trails, and streams, fire history narrative, a definition of the risk to employees and visitors, and instructions about actions to take during rain events. When possible, an interpretative ranger stationed at each kiosk to engage visitors on the topic and give verbal explanations, particularly during winter high visitation season.

Installations of the signs are funded for fiscal year 2013 and need to be installed before September 30, 2013. Road signs should conform to tribal and California Department of Transportation specifications. It is recommended for the tribe and the National Weather Service share information concerning weather events which may impact day use areas, and prompt the tribe to close the day use areas prior to the weather event.

An archeologist will be required to clear the proposed sites prior to installation of signs and kiosks.

- D. Purpose of Treatment Specifications (relate to damage/change caused by fire):** To educate the public about the risk of flooding road and day use areas.

- E. Treatment consistent with Agency Land Management Plan (identify which plan):** Tribal Fire Management Plan 2007.

- F. Treatment Effectiveness Monitoring Proposed:**

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
Archeologist – GS-11 @ \$45/hr. x 16 hr. x 1 FY	\$720
TOTAL PERSONNEL SERVICE COST	\$720

EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Equipment rental including delivery – Back-hoe w/auger @ \$60/hr. x 30 hr. x 1 FY	\$1,800
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$1,800
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Diesel Fuel @ \$4.20/gallon x 50 gallons x 1 FY	\$210
Construction materials for kiosks - \$3,000 ea x 3 x 1 FY	\$9,000
Road sign construction materials including sign making - \$350 ea x 15 x 1 FY	\$5,250
TOTAL MATERIALS AND SUPPLY COST	\$14,460
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Heavy Equipment Operators - \$40/hr. x 30 hr. x 1 FY	\$1,200
2 Labors - \$20/hr. x 30 hr. x 1 FY	\$1,200
TOTAL CONTRACT COST	\$2,400

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	8/1/2013	9/30/2013	F S	Sign	\$492	15	\$7,380
2013	8/1/2013	9/30/2013	F S	kiosk	\$4,000	3	\$12,000
TOTAL							\$19,380

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P C E M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix I Watershed Assessment, Appendix IV Treatments Map.
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PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	ACBCI Invasive Species Detection and Control	PART E Spec-#	4
NFPORS TREATMENT CATEGORY*	Invasive Species	FISCAL YEAR(S) (list each year):	2013, 2014
NFPORS TREATMENT TYPE *	Hand Treatment & Chemical Treatment	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Indian Canyons	IMPACTED T&E SPECIES	Peninsular Bighorn Sheep (+)

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description:

Assess known locations within the burned area and or adjacent to the West Palm Canyon on ACBCI lands within 10 weeks after fire containment to determine if noxious weeds will disperse seed onto the burned/disturbed sites. After vegetation green-up in spring of 2014 assess known noxious weeds/non-native invasive plant species on ACBCI lands within the burn. Assess for possible invasions along trails, burned areas and fire suppression impacted areas within the perimeter of the Mountain Fire. Approximately 5,783 acres of ACBCI land were impacted by the fire, though weed surveillance and control should focus in and around riparian areas where the potential for invasion is highest. Sites for examination should include existing locations and in areas that have a high probability for invasion within the burned area. Prioritize treatments to control the establishment and spread of noxious weeds.

Noxious weeds are known have been documented on ACBCI lands in Andreas, W. Palm, Murray and Tahquitz Canyons, as well as perennial and ephemeral springs within the burn area. Species include African fountain grass, Saharan mustard, castor bean, and Tamarix spp.

B. Location/(Suitable) Sites:

Assess areas that have a high potential for weed/invasive species establishment—the burned area and areas disturbed by fire suppression forces. These include trails, handline, and/or dozer line within the fire perimeter. Detection efforts should focus closely on trail and riparian areas, as these will serve as invasion points when re-opened with visitors potentially transferring in weed seeds. Spring sites, due to the presence of moist soil could also be infested where native vegetation has been removed by the fire.

C. Design/Construction Specifications:

1. Conduct short-term monitoring (fall of 2013 and growing season of 2014) using early detection and rapid response assessment/monitoring of noxious weed/non-native invasive plant species infestations within the burned area. Monitoring to determine the post-fire presence or spread of invasive species will be conducted first at and near the known occurrences of weeds then in areas disturbed by the fire and fire suppression activities.
2. Natural re-vegetation of the burned area will be assessed in late spring/early summer of 2014 to determine whether there is sufficient recovery to preclude noxious weeds/invasive species. Assessment locations will be in areas representative that are not transitional from one ecological site to another, using local agency-specified methods.
3. Inventory/assess, photograph and map new noxious weed infestations within burned area using Global Positioning System (GPS) technology.
4. Two control methods are being proposed following an integrated pest management approach. Manual removal of African fountain grass, saharan mustard, and castor bean will be conducted, while chemical treatment will be used to treat Tamarix. Early detection and rapid response (EDRR) methods coupled with integrated pest management techniques, which include manual removal and chemical treatments, will serve as an effective strategy to battle invasive species. Hand pulling, grubbing out, and targeted chemical applications will allow for control while still protecting sensitive habitats on ACBCI lands. These methods are consistent with the ACBCI Tribal Habitat Conservation Plan and Forest Management Plan. Coordination with UC cooperative extension and/or the local county agricultural extension agent should be conducted to determine recommended herbicide use rates, suitable herbicides to use for specific weed species, and timing of application to ensure effective control.
5. Prepare annual reports and a final report documenting sampling methodologies, techniques, areas sampled, invasive species treated and success/failure of treatment, and summary of findings. Submit supplemental funding requests for subsequent years monitoring studies.

D. Purpose of Treatment Specifications (relate to damage/change caused by fire):

This treatment is necessary to prevent the establishment and to control the spread of existing noxious weeds and non-native invasive species into susceptible burned areas. EDRR will be used to prevent new noxious weed infestations from becoming established and to ensure the natural recovery of the native perennial grasses, forbs and shrubs. This treatment will also ensure the ecological indicators (Soil Stability, Hydrologic Function, and Biotic Integrity) are functioning properly during the natural recovery period on ACBCI lands. Chemical treatment, as a part of an IPM Program addressing new and existing noxious weed infestations, will help reduce the likelihood of non-native invasive species spreading to disturbed areas as well as enhancing the re-establishment of high quality wildlife habitat and diverse native plant communities within the burn.

E. Treatment consistent with Agency Land Management Plan (identify which plan):

These methods are consistent with the ACBCI Tribal Fire Management Plan and Forest Management Plan

F. Treatment Effectiveness Monitoring Proposed:

Treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives. Weed specialist/technicians will visit treated sites within two weeks of treatment during the growing season to ensure the efficacy of treatment (i.e. plants weren't missed, no re-sprouting is occurring). Initiate follow-up treatments if additional non-native species or new infestations are discovered. Control will be considered successful upon determination that all noxious weeds have been controlled and non-native invasive plants have not spread beyond their pre-fire locations. Monitoring is required to ascertain whether vegetative recovery of habitat has, as anticipated, occurred. Additional treatments may be proposed if assessment concludes that the criteria for re-vegetation success are not achieved. A supplemental funding request for non-native invasive plant control will also be submitted if monitoring reveals expansion of noxious weeds from existing locations and if new infestations are found in the burn area.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
Tribal Ranger/ Maintenance Crew Supervisor: \$30 x 40hrs x 2 FY	\$2,400
Ranger/Maintenance Crew: \$18/hr x 4 members x 200hrs x 1FY	\$14,400
TOTAL PERSONNEL SERVICE COST	\$16,800
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Chemical, Surfactant, Dyes	\$700
Digging/grubbing tools, contractor bags, eye protection, gloves, misc	\$600
Tyvek suits @ \$6.50/ea X 30	\$195
TOTAL MATERIALS AND SUPPLY COST	\$1,495
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	8/12/13	9/30/13	F	acres	\$159	25	\$3,980
2014	3/1/14	August 2014	F	acres	\$143	100	\$14,315
TOTAL							18,295

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M,C
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See: Appendix I Vegetation Assessment, Appendix IV Treatment Map

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Cultural Site Protection	PART E Spec-#	5
NFPORS TREATMENT CATEGORY*	Heritage Resources	FISCAL YEAR(S) (list each year):	2013/2014
NFPORS TREATMENT TYPE *	Protect Heritage Sites	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	N/A	IMPACTED T&E SPECIES	N/A

* See NEPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description: Assessment for values at risk on archaeological sites located on the Agua Caliente Indian Reservation, and downstream from the burned area resulted in the identification of a previously known sweat lodge and associated features that are at risk from post-fire flooding. This may compromise site integrity through dislocation of feature elements and transport of the associated artifact assemblage downstream. This treatment involves the installation of erosion control matting for the protection of high values at risk from increased runoff resultant from expected overtopping of the stream bank.

B. Location/(Suitable) Sites: These features are located in Murray Canyon.

C. Design/Construction Specifications: Install jute fabric erosion control blanket.

1. Unroll jute fabric blanket parallel to the primary direction of flow, ensuring that it is in direct contact with the soil surface. Install only in association with the artifact assemblage area and not directly over rock features. Avoid stretching or permitting the material to bridge surface inconsistencies. Overlap edges of adjacent matting six to twelve inches.
2. Due to localized conditions of loose, sandy soil, use stakes or other anchors of a sufficient length to hold down the material.
3. Use a sufficient number of rock anchors of a size large enough to secure the matting and eliminate the possibility of seam separation. Overlap roll ends two to six inches in the direction of flow.

D. Purpose of Treatment Specifications (relate to damage/change caused by fire): This treatment will prevent unacceptable degradation to a site that is listed on the National Register of Historic Places.

E. Treatment consistent with Agency Land Management Plan (identify which plan): Indian Canyons Master Plan, 2007 Update. Agua Caliente Band of Cahuilla Indians.

F. Treatment Effectiveness Monitoring Proposed: Monitor soil loss after each successive rainfall event for three to five years.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item):		COST / ITEM
Do not include contract personnel costs here (see contractor services below).		
TOTAL PERSONNEL SERVICE COST		
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item):		
Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.		
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST		
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):		
Jute fabric erosion control matting @ \$115/Each X Three 225' Roll X 1 Fiscal Year =		\$345
TOTAL MATERIALS AND SUPPLY COST		\$345
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):		
TOTAL TRAVEL COST		

CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Labor @ \$20/Hour X 40 Hours X 1 Fiscal Year =	\$800
TOTAL CONTRACT COST	\$800

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	08/01/2013	09/30/2013	S	Site	\$275	1	\$1,145
TOTAL							\$1,145

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P
3. Estimate supported by cost guides from independent sources or other federal agencies	M
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix I Assessments, Appendix IV Treatment Map

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	ACBCI Spring Protection	PART E Spec-#	6
NFPORS TREATMENT CATEGORY*	Wildlife Habitat	FISCAL YEAR(S) (list each year):	2013, 2014
NFPORS TREATMENT TYPE *	Stream Habitat Improvement	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Indian Canyons	IMPACTED T&E SPECIES	Peninsular Bighorn Sheep (+)

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description:

Peninsular bighorn sheep (PBS), a Federally endangered species, widely uses tribal lands within the fire perimeter. Recent surveys documented only 16 adults in the San Jacinto Recovery Unit. While direct mortality is unlikely, there is a risk to sediment deposits within important water sources. Tribal rangers and BAER resource specialists have observed sedimentation occurring in several important bighorn water sources. This treatment would improve clean surface spring water by removing sediment from known PBS watering springs. Small crews would manually remove sediment from each impacted spring.

Manual removal of sediment and ash to increase free standing water for PBS has been conducted by ACBCI rangers previously with good results. As storm and run-off events continue and even intensify, the impacts to free standing water and the endangered PBS could be devastating. This specification seeks to provide funding for emergency stabilization measures to prevent further degradation to this listed species. This is consistent with BAER Policy which states, "A burned area assessment should identify post-fire threats to federal and tribal listed or proposed threatened and endangered species and what, if any, cost effective stabilization measures can be implemented to prevent further post-fire condition degradation." (Interagency BAER Guidebook, section 4.2.9).

B. Location/(Suitable) Sites:

Spring clean out should occur at sites that previously provided free standing water to PBS on ACBCI lands and are downslope from moderate to high burn severity areas. These include Dos Palmas, Indian, and Murray Canyon Springs, as well as pool locations in W. Palm, Andreas, Murray, and Tahquitz Canyons. Site visits will need to be conducted prior to clean out activities to determine if springs are producing water at that time of year, as some are ephemeral.

C. Design/Construction Specifications:

1. Conduct surveillance of spring and pool sites in the above mentioned locations to determine if springs are producing water and have been impacted by sediment/ash from burned slopes. If possible, determine the presence of PBS activity in the area through signs such as recent tracks and/or scat.
2. When impacted springs/pools are found, manually remove sediment/ash down to pre-fire levels to restore the presence of free standing water. After initial connection to the spring is restored, crews should remove as much sediment/ash as possible to widen the free standing water pool. Removed sediment/ash should be placed away from the edge of the spring/pool to prevent it from re-entering the system.
3. Inventory and conduct condition assessments of impacted water tanks and plumbing infrastructure at water sources to determine if they were damaged by the fire. If so, replace and/or repair water fire damaged watering systems in order to provide drinking water for PBS.
4. After initial clean-out, sites should be re-visited following run-off producing events to re-treat impacted pools. Submit supplemental requests for funding for subsequent years treatments should sediment loads not diminish after the first year post fire.
5. Inventory/assess, photograph (pre and post treatment) and map spring/pool treatment sites within burned area using Global Positioning System (GPS).
6. Prepare annual reports and a final report documenting surveillance methodologies, techniques, springs/pools treated, success/failure of treatment, and summary of findings. Submit supplemental funding requests for subsequent years monitoring studies if needed.

D. Purpose of Treatment Specifications (relate to damage/hange caused by fire):

The purpose of this treatment is to prevent the extirpation of PBS, a federally endangered species, from the San Jacinto Recovery Unit by ensuring the presence of free standing water. Water is a critical resource for this species in this extremely arid environment. Sediment loads in springs/pools could have significant impact to free standing water sources, and the proposed emergency stabilization measure would help mitigate those impacts to this very rare, endangered species.

E. Treatment consistent with Agency Land Management Plan (identify which plan):

ACBCI Habitat Conservation Plan, Peninsular Bighorn Sheep Recovery Plan, Peninsular Bighorn Sheep 5-year Review.

F. Treatment Effectiveness Monitoring Proposed:

Treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives. Rangers

should visit treated areas after run-off producing rain events to document any further sedimentation. Follow-up treatments should be initiated if warranted to increase available free standing water. Treatments will be considered successful upon determination that springs/pools are maintaining free standing water similar to pre-fire levels.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
Ranger/Maintenance Crew: \$18/hr x 3 members x 80hrs x 1FY	\$4,320
TOTAL PERSONNEL SERVICE COST	\$4,320
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
	\$
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Shovels, other digging equipment, tanks, plumbing supplies	\$600
TOTAL MATERIALS AND SUPPLY COST	\$600
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	8/12/13	9/30/13	F	Springs treated	\$615	2	\$1,230
2014	10/1/13	August 2014	F	Springs treated	\$615	6	\$3,690
						TOTAL	\$4,920

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See: Appendix I Wildlife Assessment and Vegetation Assessment, Appendix IV Treatment Map

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Culvert and Ditch Debris Removal	PART E Spec-#	7
NFPORS TREATMENT CATEGORY*	Roads	FISCAL YEAR(S) (list each year):	2013 & 2014
NFPORS TREATMENT TYPE *	Culverts	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Indian Canyons	IMPACTED T&E SPECIES	none

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

- A. General Description:** Post-fire flooding may plug culverts, ditches, and a water diversion structure. Plugged culverts may cause debris deposits on roads or wash roads out, creating a risk to driving and make the road impassable to traffic. Sediment from post-fire conditions may plug a water diversion at the Andreas gage station.
- Culverts along paved and earthen roads below West Fork Palm, Andreas, and Murray Canyons should be inspected after storm events and cleared as necessary. Culverts and ditches should be cleaned as soon as possible, prior to storms, and completed before September 30, 2013. Debris removal will require a back-hoe and a dump truck.
- The irrigation diversion and the gage station in the Andreas Canyon Day Use Area should be cleaned as soon as possible, prior to storms, and completed before September 30, 2013. Debris removal will require an excavator and a dump truck.
- B. Location/(Suitable) Sites:** Paved and earthen roads at and downstream of West Fork Palm, Andreas, and Murray Canyons and the water diversion at Andreas Canyon gage station.
- C. Design/Construction Specifications:** Remove flood debris from culverts using heavy equipment (back-hoe and dump truck) and haul debris away. Specification provides for two debris removal events in 2013 and four debris removal events in 2014. The two debris removal events in 2013 include one pre-flood debris removal to be completed immediately. The specification also provides for cleaning water diversion structure at Andreas Canyon gage station (excavator and dump truck) two times in 2013 and four times on 2014. The two diversion cleanings in 2013 include one pre-flood debris removal. **If possible, the diversion intake needs to be closed during cleaning and prior to precipitation events.** All debris should be transported away from the sites and stored in an area away from streams and floodplains.
- D. Purpose of Treatment Specifications (relate to damage/change caused by fire):** Post-fire watershed conditions may flood streams depositing debris in culverts and ditches, plugging culverts and water a diversion, and causing damage to roadways, infrastructure, and diversions.
- E. Treatment consistent with Agency Land Management Plan (identify which plan):** Tribal Fire Management Plan 2007.
- F. Treatment Effectiveness Monitoring Proposed:** Monitor structures following precipitation events to evaluate effectiveness of existing structures after flood events.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
TOTAL PERSONNEL SERVICE COST	
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Equipment rental including delivery – Back-hoe @ \$60/hr. x 81hr. x 2 FY	\$9,720
Equipment rental – Dump Truck @ \$40/hr. x 81 hours x 2 FY	\$6,480
Equipment rental including delivery – Excavator @ \$100/hr. x 12 hr. x 2 FY	\$2,400
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$18,600
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Diesel Fuel @ \$4.20/gallon x 150 gallons x 2 FY	\$630
TOTAL MATERIALS AND SUPPLY COST	\$630

TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
2 Heavy Equipment Operators - \$40/hr. x 81 hr. x 2 FY	\$12,960
2 Labors - \$20/hr. x 81 hr. x 2 FY	\$6,480
TOTAL CONTRACT COST	\$19,440

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	8/1/2013	9/30/2013	S	Debris Removal Events	\$6,445	2	\$12,890
2014	10/1/2013	August 2014	S	Debris Removal Events	\$6,445	4	\$25,780
TOTAL							\$38,670

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	C E M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix I Watershed Assessment, Appendix IV Treatment Map.

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	Cultural Site Stabilization	PART E Spec-#	8
NFPORS TREATMENT CATEGORY*	Heritage Resources	FISCAL YEAR(S) (list each year):	2013/2014
NFPORS TREATMENT TYPE *	Site Stabilization	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	N/A	IMPACTED T&E SPECIES	N/A

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

- A. General Description:** Assessment for values at risk on archaeological sites located on the Agua Caliente Indian Reservation, and downstream from the burned area resulted in the identification of a previously recorded site of significance that is at a high risk of erosion from post-fire flooding. Site degradation from pre-fire flows is apparent, therefore it is expected that post-fire precipitation will significantly exacerbate this issue. This treatment employs the construction of rock weirs to direct flows and velocities away from an unstable stream bank and terrace containing high values at risk.
- B. Location/(Suitable) Sites:** This site, is located on an alluvial fan below Andreas Creek Canyon.
- C. Design/Construction Specifications:** Beginning 75 feet downstream of the road crossing install a rock vortex weir (Figure 3), a U-shaped structure of rocks with the open end facing downstream, to begin to control flow and direct water to the north bank. The dimensions are approximately 35 feet bankfull width and 25 feet channel bottom width. The Vortex Weir bottom/inlet/low point will be 15 feet wide to maintain capacity while directing the channel to a defined location. The U-shape will be slightly shifted to the north to direct more flow to the north. Approximately 50' downstream from the vortex weir the first of a series of 6 bendway weirs would be installed along the southern bank to continuously direct flow and stream flow energy away from the southern bank. A bendway weir is a series of rocks (3-4 foot diameter granite or gneiss; but smaller boulders could be utilized as part of weirs in appropriate locations (protected and in clusters with other larger boulders)) aligned in a straight line angled slightly upstream from perpendicular to the flow (Figure 1 & 2). These rocks are keyed into the bank and the stream channel by partially burying them. The rock along the bank is set highest and the rock farthest into the channel is 1-2 feet above the channel bottom. Rocks for use in all structures will be from local sources and time is included for local employees to identify and collect rocks.
- Optional safety Measure (approval necessary):** The point bar material will be moved to the outer (southern) bank using heavy equipment (dozer or excavator) to create a new channel to the north through the existing point bar (first terrace that is still part of the existing active channel but about 4-5 feet above the lowest point of the existing channel. Bendway weirs will then be added to this channel to ensure that it remains stable.
- D. Purpose of Treatment Specifications (relate to damage/change caused by fire):** This treatment will protect a high value cultural resource from increased stream flows and/or flooding. This option will result in additional protection to the southern bank while not excavating in previously undisturbed areas as all excavation will be within the currently disturbed lower floodplain.
- E. Treatment consistent with Agency Land Management Plan (identify which plan):** Indian Canyons Master Plan, 2007 Update. Agua Caliente Band of Cahuilla Indians.
- F. Treatment Effectiveness Monitoring Proposed:** Monitor effectiveness of weirs after each successive rainfall event for three to five years. Add/adjust weirs as necessary.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hour X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
TOTAL PERSONNEL SERVICE COST	
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
Equipment rental and operator:	
Excavator: \$100/hour x 160 hours	\$16,000
D6 Dozer/Grader: \$100/hour x 60 hours	\$6,000
Transport: \$800/day x 4day	\$3,200
Dump truck: \$100/hour x 40 hours	\$4,000
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$29,200

MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Boulders and rocks will be collected locally	\$0
TOTAL MATERIALS AND SUPPLY COST	\$0
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
Equipment operators @ \$40/hour x 220 hours	\$8,800
2 Hand Laborers @ \$20/hour x 200 hours	\$8,000
1 Tribal Ranger for Treatment Effectiveness Monitoring @ \$40/hour x 40 hours	\$1,600
Archeologist x \$50/hour x 160 hours	\$8,000
Hydrologist x \$50/hour x 180 hours	\$9,000
TOTAL CONTRACT COST	\$35,400

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	08/02/2013	09/30/2013	S	Structure	\$9,229	7	\$64,600
TOTAL							\$64,600

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies	M
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See Appendix I Cultural Resource Assessment, Appendix IV Treatment Map
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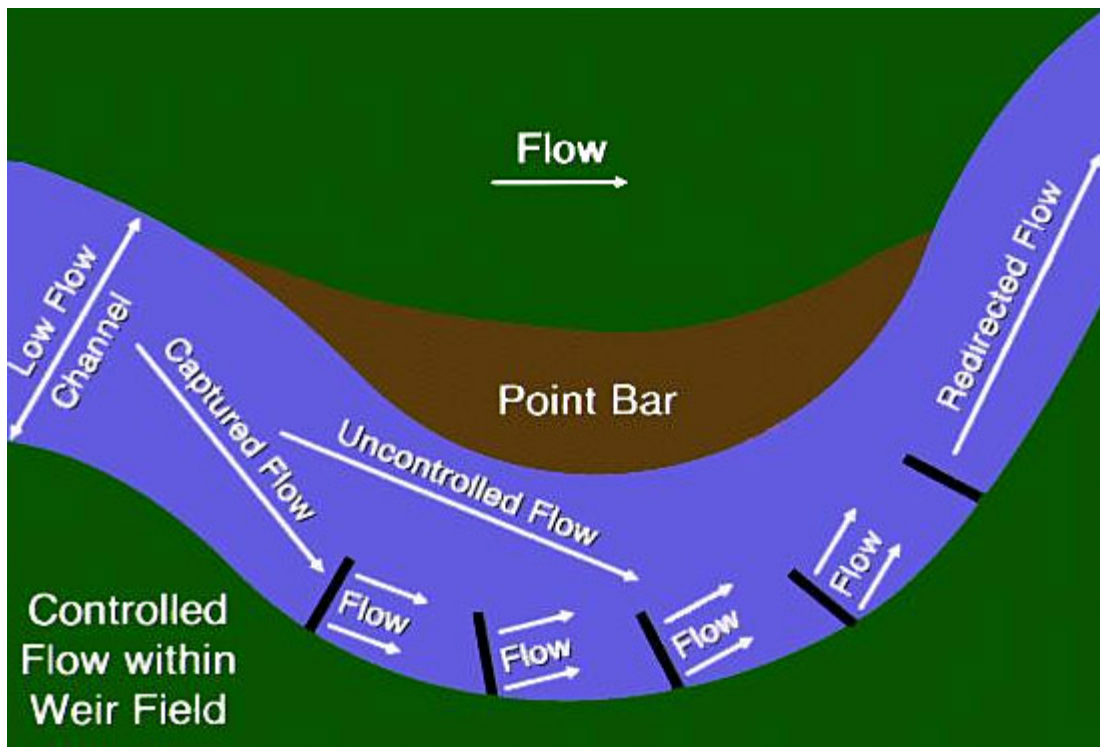


Figure 1. Typical image of a series of bendway weirs.

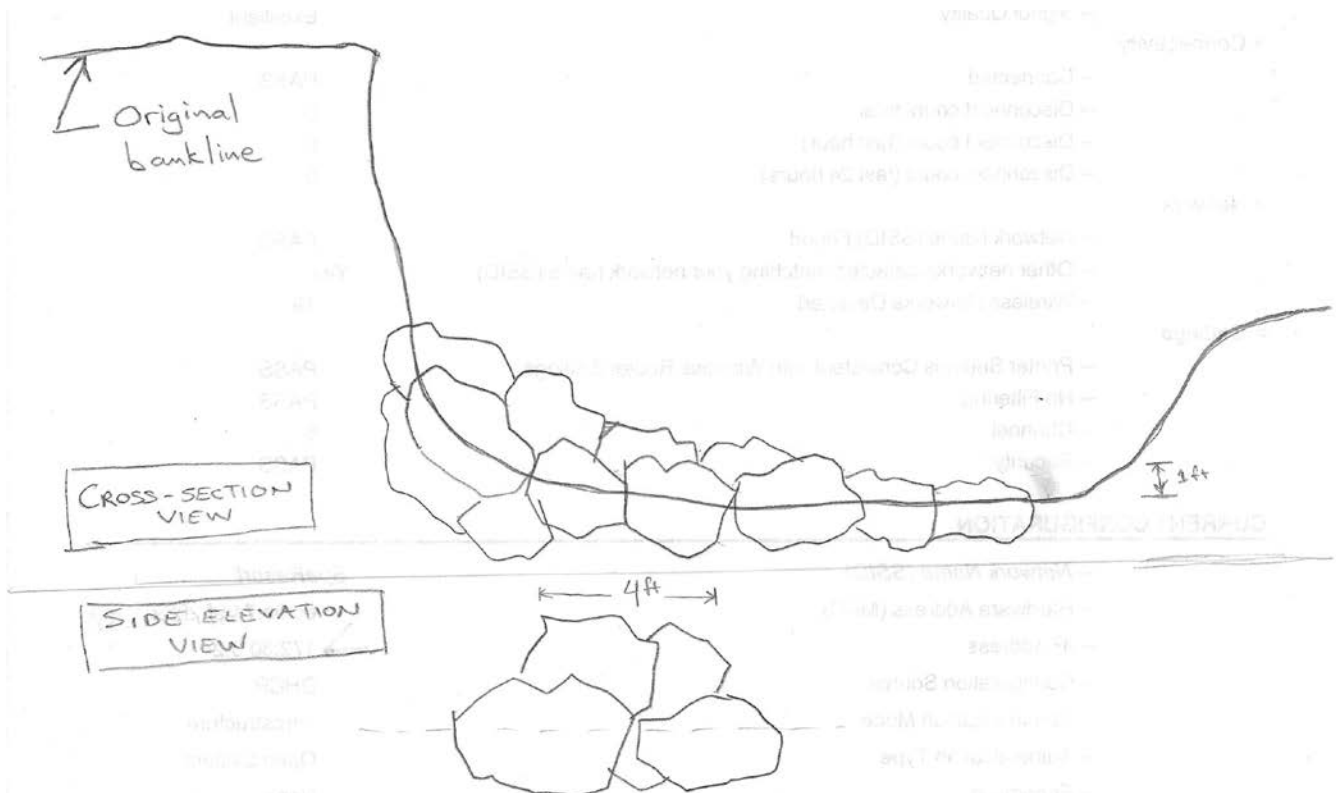


Figure 2. Drawing of typical bendway weir utilizing smaller rocks. Larger rocks are specified for this treatment.

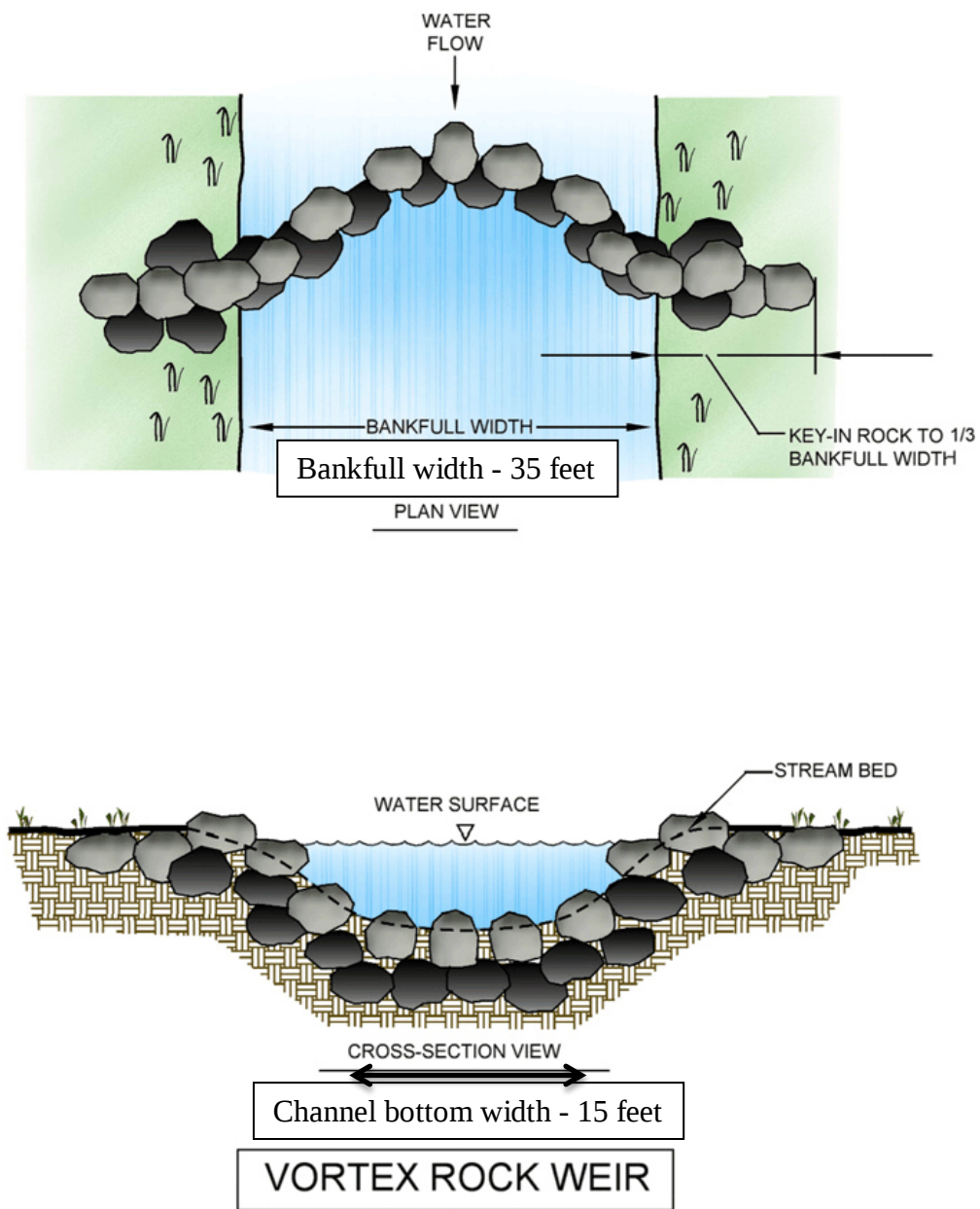
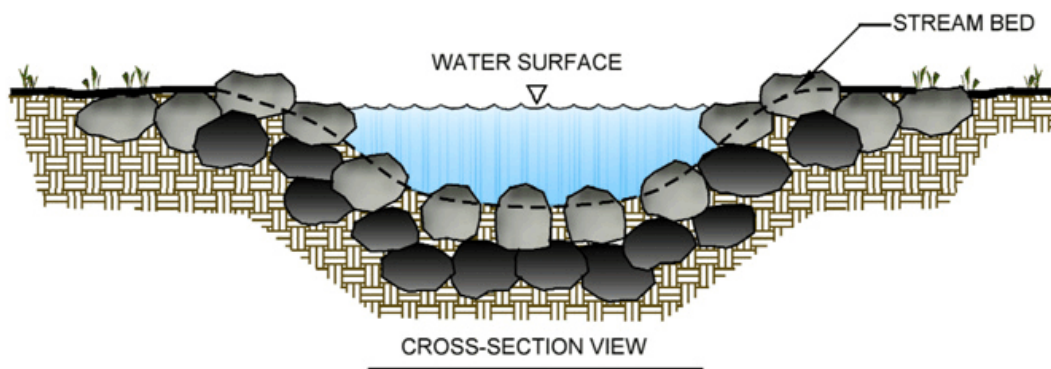
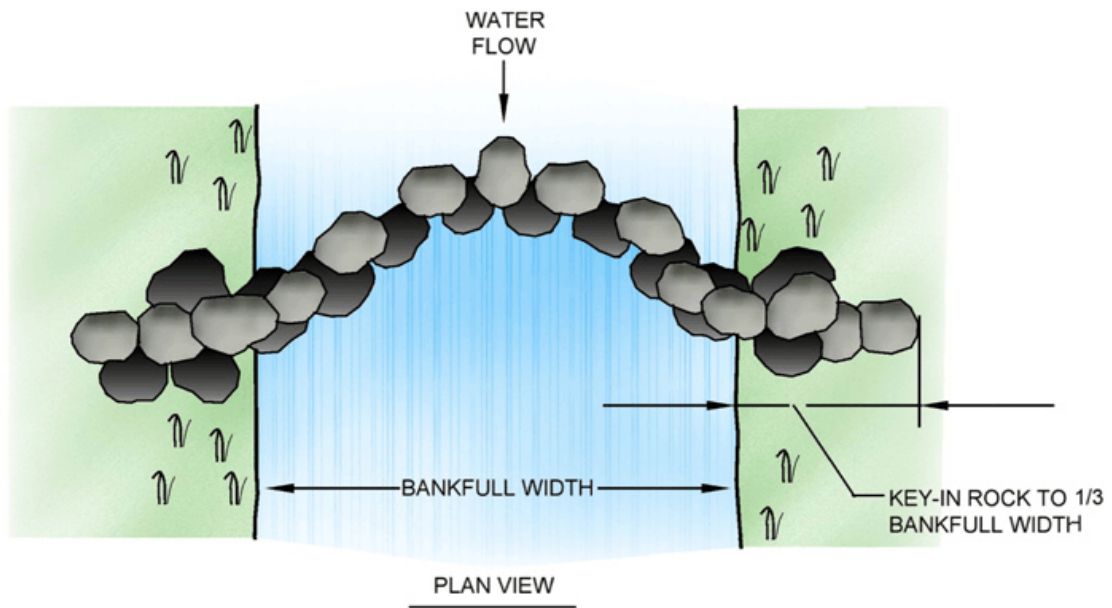


Figure 3. Drawings for the typical vortex rock weir.



VORTEX ROCK WEIR

BLM – PALM SPRINGS
SOUTH COAST FIELD OFFICE
SPECIFICATIONS

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	BLM Invasive Species Detection and Control	PART E Spec-#	4a
NFPORS TREATMENT CATEGORY*	Invasive Species	FISCAL YEAR(S) (list each year):	2014
NFPORS TREATMENT TYPE *	Hand Treatment & Chemical Treatment	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	Indian Canyons	IMPACTED T&E SPECIES	Peninsular Bighorn Sheep (+)

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description:

Assess known locations within the burned area and or adjacent to the West Palm Canyon on BLM lands within 10 weeks after fire containment to determine if noxious weeds will disperse seed onto the burned/disturbed sites. After vegetation green-up in spring of 2014 assess known noxious weeds/non-native invasive plant species on BLM lands within the burn. Assess for possible invasions along trails, burned areas and fire suppression impacted areas within the perimeter of the Mountain Fire. Approximately 2,443 acres of BLM land were impacted by the fire, though weed surveillance and control should focus in and around riparian areas where the potential for invasion is highest. Sites for examination should include existing locations and in areas that have a high probability for invasion within the burned area. Prioritize treatments to control the establishment and spread of noxious weeds.

Noxious weeds are known have been documented on BLM lands in Andreas, W. Palm, Murray and Tahquitz Canyons, as well as perennial and ephemeral springs within the burn area. Species include African fountain grass, Sahara mustard, castor bean, and Tamarix spp.

B. Location/(Suitable) Sites:

Assess areas that have a high potential for weed/invasive species establishment—the burned area and areas disturbed by fire suppression forces. These include trails, handline, and/or dozer line within the fire perimeter. Detection efforts should focus closely on trail and riparian areas, as these will serve as invasion points when re-opened with visitors potentially transferring in weed seeds. Spring sites, due to the presence of moist soil could also be infested where native vegetation has been removed by the fire.

C. Design/Construction Specifications:

1. Conduct short-term monitoring (fall of 2013 and growing season of 2014) using early detection and rapid response assessment/monitoring of noxious weed/non-native invasive plant species infestations within the burned area. Monitoring to determine the post-fire presence or spread of invasive species will be conducted first at and near the known occurrences of weeds then in areas disturbed by the fire and fire suppression activities.
2. Natural re-vegetation of the burned area will be assessed in late spring/early summer of 2014 to determine whether there is sufficient recovery to preclude noxious weeds/invasive species. Assessment locations will be in areas representative that are not transitional from one ecological site to another, using local agency-specified methods.
3. Inventory/assess, photograph and map new noxious weed infestations within burned area using Global Positioning System (GPS) technology.
4. Two control methods are being proposed following an integrated pest management approach. Manual removal of African fountain grass, saharan mustard, and castor bean will be conducted, while chemical treatment will be used to treat Tamarix. Early detection and rapid response (EDRR) methods coupled with integrated pest management techniques, which include manual removal and chemical treatments, will serve as an effective strategy to battle invasive species. Hand pulling, grubbing out, and targeted chemical applications will allow for control while still protecting sensitive habitats on BLM lands. These methods are consistent with BLM habitat conservation and management plans. Coordination with UC cooperative extension and/or the local county agricultural extension agent should be conducted to determine recommended herbicide use rates, suitable herbicides to use for specific weed species, and timing of application to ensure effective control.
5. Prepare annual reports and a final report documenting sampling methodologies, techniques, areas sampled, invasive species treated and success/failure of treatment, and summary of findings. Submit supplemental funding requests for subsequent years monitoring studies.

D. Purpose of Treatment Specifications (relate to damage/change caused by fire):

This treatment is necessary to prevent the establishment and to control the spread of existing noxious weeds and non-native invasive species into susceptible burned areas. EDRR will be used to prevent new noxious weed infestations from becoming established and to ensure the natural recovery of the native perennial grasses, forbs and shrubs. This treatment will also ensure the ecological indicators (Soil Stability, Hydrologic Function, and Biotic Integrity) are functioning properly during the natural recovery period on BLM lands. Chemical treatment, as a part of an IPM Program addressing new and existing noxious weed infestations, will help reduce the likelihood of non-native invasive species spreading to disturbed areas as well as enhancing the re-establishment of high quality wildlife habitat and

diverse native plant communities within the burn.

E. Treatment consistent with Agency Land Management Plan (identify which plan):

BLM habitat conservation and management plans.

F. Treatment Effectiveness Monitoring Proposed:

Treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives. Weed specialist/technicians will visit treated sites within two weeks of treatment during the growing season to ensure the efficacy of treatment (i.e. plants weren't missed, no re-sprouting is occurring). Initiate follow-up treatments if additional non-native species or new infestations are discovered. Control will be considered successful upon determination that all noxious weeds have been controlled and non-native invasive plants have not spread beyond their pre-fire locations. Monitoring is required to ascertain whether vegetative recovery of habitat has, as anticipated, occurred. Additional treatments may be proposed if assessment concludes that the criteria for re-vegetation success are not achieved. A supplemental funding request for non-native invasive plant control will also be submitted if monitoring reveals expansion of noxious weeds from existing locations and if new infestations are found in the burn area.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
TOTAL PERSONNEL SERVICE COST	
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
TOTAL MATERIALS AND SUPPLY COST	
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
BLM: Contract Cost for licensed pesticide applicator to survey and treat approx.120 acres in BLM lands in W. Palm, Murray, and/or Andreas Canyons	\$15,000
TOTAL CONTRACT COST	\$15,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
BLM							
2014	10/1/13	August 2014	S	acres	\$125	120	\$15,000
TOTAL							\$15,000

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See: Appendix I Vegetation Assessment, Appendix IV Treatment Map

PART F - INDIVIDUAL TREATMENT SPECIFICATION

TREATMENT/ACTIVITY NAME	BLM Spring Protection	PART E Spec-#	6a
NFPORS TREATMENT CATEGORY*	Wildlife Habitat	FISCAL YEAR(S) (list each year):	2013, 2014
NFPORS TREATMENT TYPE *	Stream Habitat Improvement	WUI? Y / N	N
IMPACTED COMMUNITIES AT RISK	N/A	IMPACTED T&E SPECIES	Peninsular Bighorn Sheep (+)

* See NFPORS Restoration & Rehabilitation module - Edit Treatment screen for applicable entries.

WORK TO BE DONE (describe or attach exact specifications of work to be done):

A. General Description:

Peninsular bighorn sheep (PBS), a Federally endangered species, widely uses tribal lands within the fire perimeter. Recent surveys documented only 16 adults in the San Jacinto Recovery Unit. While direct mortality is unlikely, there is a risk to sediment deposits within important water sources. Tribal rangers and BAER resource specialists have observed sedimentation occurring in several important bighorn water sources. This treatment would improve clean surface spring water by removing sediment from known PBS watering springs. Small crews would manually remove sediment from each impacted spring.

Manual removal of sediment and ash to increase free standing water for PBS has been conducted by ACBCI rangers previously with good results. As storm and run-off events continue and even intensify, the impacts to free standing water and the endangered PBS could be devastating. This specification seeks to provide funding for emergency stabilization measures to prevent further degradation to this listed species. This is consistent with BAER Policy which states, "A burned area assessment should identify post-fire threats to federal and tribal listed or proposed threatened and endangered species and what, if any, cost effective stabilization measures can be implemented to prevent further post-fire condition degradation." (Interagency BAER Guidebook, section 4.2.9)

B. Location/(Suitable) Sites:

Spring clean out should occur at sites that previously provided free standing water to PBS on BLM lands and are downslope from moderate to high burn severity areas. These include Agua Fuerte Spring and an unnamed spring in section 29, as well as pool locations in W. Palm, Andreas, Murray, and Tahquitz Canyons. Site visits will need to be conducted prior to clean out activities to determine if springs are producing water at that time of year, as some are ephemeral.

C. Design/Construction Specifications:

1. Conduct surveillance of spring and pool sites in the above mentioned locations to determine if springs are producing water and have been impacted by sediment/ash from burned slopes. If possible, determine the presence of PBS activity in the area through signs such as recent tracks and/or scat.
2. When impacted springs/pools are found, manually remove sediment/ash down to pre-fire levels to restore the presence of free standing water. After initial connection to the spring is restored, crews should remove as much sediment/ash as possible to widen the free standing water pool. Removed sediment/ash should be placed away from the edge of the spring/pool to prevent it from re-entering the system.
3. Inventory and conduct condition assessments of impacted water tanks and plumbing infrastructure at water sources to determine if they were damaged by the fire. If so, replace and/or repair water fire damaged watering systems in order to provide drinking water for PBS.
4. After initial clean-out, sites should be re-visited following run-off producing events to re-treat impacted pools. Submit supplemental requests for funding for subsequent years treatments should sediment loads not diminish after the first year post fire.
5. Inventory/assess, photograph (pre and post treatment) and map spring/pool treatment sites within burned area using Global Positioning System (GPS).
6. Prepare annual reports and a final report documenting surveillance methodologies, techniques, springs/pools treated, success/failure of treatment, and summary of findings. Submit supplemental funding requests for subsequent years monitoring studies if needed.

D. Purpose of Treatment Specifications (relate to damage/hange caused by fire):

The purpose of this treatment is to prevent the extirpation of PBS, a federally endangered species, from the San Jacinto Recovery Unit by ensuring the presence of free standing water. This is a critical resource for this species in the extremely arid environment in which they live. Within three to five years much of the pre-fire hydrological regime will have re-established in these canyon areas, however in the one to two years post fire, sediment loads in springs/pools could have significant impact to free standing water sources. The proposed emergency stabilization measure would help mitigate those impacts to this very rare, endangered species.

E. Treatment consistent with Agency Land Management Plan (identify which plan):

Peninsular Bighorn Sheep Recovery Plan, Peninsular Bighorn Sheep 5-year Review.

F. Treatment Effectiveness Monitoring Proposed:

Treatment sites will be evaluated annually for the next three years to ensure control methods are meeting resource objectives. BLM

crews should visit treated areas after run-off producing rain events to document any further sedimentation. Follow-up treatments should be initiated if warranted to increase available free standing water. Treatments will be considered successful upon determination that springs/pools are maintaining free standing water similar to pre-fire levels.

LABOR, MATERIALS AND OTHER COST:

PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST / ITEM
Maintenance Crew: \$18/hr x 3 members x 80hrs x 1FY	\$4,320
TOTAL PERSONNEL SERVICE COST	\$4,320
EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	
	\$
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	\$
MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	
Shovels, other digging equipment, tanks, plumbing supplies	\$600
TOTAL MATERIALS AND SUPPLY COST	\$600
TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	
TOTAL TRAVEL COST	
CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	PLANNED INITIATION DATE (M/D/YYYY)	PLANNED COMPLETION DATE (M/D/YYYY)	WORK AGENT	UNITS	UNIT COST	PLANNED ACCOMPLISHMENTS	PLANNED COST
2013	8/12/13	9/30/13	F	Springs treated	\$615	2	\$1,230
2014	10/1/13	August 2014	F	Springs treated	\$615	6	\$3,690
TOTAL							\$4,920

Work Agent: C=Coop Agreement, F=Force Account, G=Grantee, P=Permittees, S=Service Contract, T=Timber Sales Purchaser, V=Volunteer

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P, M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **E** = Equipment **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

See: Appendix I Wildlife Assessment and Vegetation Assessment, Appendix IV Treatment Map

BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

APPENDIX I RESOURCE ASSESSMENTS

- **VEGETATION RESOURCE ASSESSMENT**
- **CULTURAL RESOURCE ASSESSMENT**
- **WILDLIFE RESOURCE ASSESSMENT**
- **WATERSHED RESOURCE ASSESSEMENT**



BAER Specialist at Helispot

BURNED AREA EMERGENCY RESPONSE PLAN

2013 Mountain Fire

VEGETATION ASSESSMENT

I. OBJECTIVES

- Determine emergency stabilization needs that aid vegetative recovery and soil stabilization efforts and mitigate impacts to sensitive plant species.
- Evaluate the potential for non-native invasive plant species encroachment into native plant communities and sensitive plant species habitat within the fire area and determine stabilization needs to mitigate new colonization.
- Assess impacts of proposed BAER emergency stabilization treatments to federally threatened/endangered plant species.

II. ISSUES

- Potential for invasion of fire impacted lands by noxious weeds and non-native invasive plant species.

III. OBSERVATIONS

This report addresses known and potential effects of the fire and proposed stabilization treatments to vegetation communities on lands held in trust by the U.S. Government, Bureau of Indian Affairs, for the Agua Caliente Band of Cahuilla Indians (ACBCI) and Bureau of Land Management (BLM) lands as a result of the Mountain Fire. It specifically addresses issues presented by Tribal and Agency resource staff and provides recommendations for emergency treatment. This plan may be cited as a justification document to seek outside funding from other sources for recommended treatments or monitoring not covered by Emergency Stabilization (ES) funds. A separate BAER assessment is being prepared by a U.S. Forest Service BAER Team for USFS lands occurring with the Mountain Fire.

Findings and recommendations contained in this assessment are based upon information obtained from literature reviews, field reconnaissance of the fire area, Geographic Information System (GIS) analyses, personal interviews, and meetings with various tribal and agency natural resource managers and other BAER Team members.

A. Background

The Mountain Fire was declared 100% contained on July 30, 2013, after burning approximately 27,531 acres across Riverside County, CA. Approximately 5,783 of ACBCI lands and 2,443 acres of BLM land were burned by the fire. Monsoonal rains have fallen over portions of the fire resulting in minor sediment and debris flows in some drainages.

1. Vegetation

The vegetation types describe in this assessment follow the community classification system described by the National Vegetation Classification System in the California Natural Diversity Database. Seven plant communities dominate tribal and BLM lands within the fire perimeter. Brief descriptions of each community type, taken from the ACBCI Tribal Habitat Conservation Plan (2010), are provided below.

Sonoran Mixed Woody and Succulent Scrub

This is the only Sonoran desert community with substantial dominance of cacti and other succulents. It is similar to Sonoran creosote bush scrub but is more varied and usually denser with shrubs standing 5 to 10 feet tall. Most stands have desert agave (*Agave deserti*), brittlebush (*Encelia* sp.), ocotillo (*Fouquieria splendens*), pygmy-cedar (*Peucephyllum schottii*), and Mohave yucca (*Yucca schidigera*) in varying proportions. It is found on rocky, well-drained slopes and alluvial fans of the San Jacinto Mountains to the south/southwest and Indio Hills to the northeast.

Interior Live Oak Chaparral

This community is a dense, tall (to 20 feet) chaparral dominated by interior live oak (*Quercus wislizenii*) and scrub oak (*Q. berberidifolia*). Interior live oak stumps sprout readily following fire. Persistent leaf litter and dense canopy preclude a substantial understory.

Red Shank Chaparral

This community is typically 6 to 12 feet tall and often forms nearly pure stands of red shank (*Adenostoma sparsifolium*). Red shank itself is an open shrub or small tree with multiple branches from the base covered with rust-red, shaggy bark. Red shank chaparral is often adjacent to and may intergrade with chamise chaparral. It is abundant in the San Jacinto and Santa Rosa Mountains. It ranges in elevation from 300 to 6,000 feet across its range.

Black Oak Forest

This is a persistent sub-climax forest dominated by black oak (*Quercus kelloggii*) with scattered ponderosa pine (*Pinus ponderosa*) or Jeffrey pine (*P. jeffreyi*). Most stands are even-aged, reflecting past disturbances, primarily fire. This community occurs on mountain slopes, benches and coves, and upper foothill slopes.

Peninsular Juniper Woodland Scrub

This community is fairly dense woodland dominated by California juniper (*Juniperus californica*). Other species include turbinella oak (*Quercus turbinella*), Mojave yucca, bear grass or nolina (*Nolina* sp.), four-leaf pinyon (*Pinus quadrifolia*), and Great Basin sagebrush (*Artemisia tridentata*). This community occurs on the desert slopes of the San Jacinto Mountains at elevations between 3,500 and 5,500 feet.

Desert Fan Palm Oasis Woodland

This community is composed of open to dense groves dominated by fan palms from 75 to 100 feet tall. The understory is sparse in dense groves where the ground is mulched by fallen fronds. More open or favorable sites may have a dense understory of riparian shrubs. This community is restricted to areas with available water and high summer temperatures, mild winters, and little rain. The largest groves are found in steep-sided canyons with permanent streams or adjacent to large springs. Smaller groves occur in canyon bottoms with intermittent surface water, moist canyon sides, or seeps. Oases often have alkaline soils due to high evaporation. This community merges (often abruptly) with desert dry wash woodland or Sonoran creosote bush scrub. The palms are fire tolerant, whereas understory species are not. Fire opens the understory, allowing seedlings to establish. Fire also increases the water supply to the fire-tolerant palm by removing competition. This community also provides free standing water for wildlife species.

Southern Sycamore-Alder Riparian Woodland

This community consists of a tall, open, broad-leaved, winter-deciduous streamside woodland dominated by sycamore (*Platanus* sp.) and often white alder (*Alnus rhombifolia*). It occurs along rocky streambeds subject to occasional high-intensity flooding. Alder increases in abundance on more perennial streams, while sycamore favors more intermittent water flow.

2. Noxious Weeds

Weeds are opportunistic species that respond well to disturbance. Fires present opportunities for weed dispersal and establishment. Disturbances caused by fire suppression activities can also cause weed seeds to germinate, spreading weeds to newly disturbed areas and increase the area of existing infestations.

Noxious weeds and non-native invasive species are a concern for biodiversity. Weed invasion is a potentially threatening process leading to competition and habitat modification. Plant communities and native species likely to be at greatest risk from weed invasion are those which occupy weed-prone habitats, such as riparian zones, community types with naturally low vegetation cover, and disturbed areas adjacent to and near existing weed infestations.

Through the use of the California Invasive Plant Council Mapping tools, review of habitat conservation planning documents, and discussions with tribal and BLM rangers, range conservationists, biologists, and fuels personnel the following noxious weeds were identified to occur within the fire perimeter: Fountain grass (*Pennisetum setaceum*), Saharan Mustard (*Brassica tournefortii*), castor bean (*Ricinus communis*), Tamarisk (*Tamarix* spp.), and spear grass (*Stipa capensis*). These have a high potential to invade and colonize recently burned areas within the Mountain Fire perimeter.

3. Federally Threatened or Endangered Plant Species

Identification of known listed species occurrences and critical habitat is crucial to accurately assess fire effects. The ACBCI, BLM, and FWS maintain extensive GIS databases on listed species occurrence locations and critical habitat layers for areas included within the fire perimeter. As part of the consultation process, a list of federally threatened or endangered plant species was requested from the U.S. Fish and Wildlife Service, Palm Spring Field Office. Using this list, analysis of GIS data, and discussions with local resource managers, it was determined that no listed plant species occur within the fire perimeter or on adjacent sites downstream of the fire on tribal or BLM lands.

B. RECONNAISSANCE METHODOLOGY AND RESULTS

Field reconnaissance consisted of inspection of fire impacted plant communities on tribal trust lands, and areas downstream of fire perimeters that could potentially be impacted by sediment and debris flows. The lack of roads and trails into the fire perimeter and steep terrain prevented access to much of the fire area. Aerial reconnaissance flights were used in lieu of on the ground visits for these reasons. This provided a landscape level perspective of the fire, access to canyons at the top of the watershed, and the ability to view all areas of the fire. Reconnaissance was conducted July 28th - July 31st. Representative sites of impacted plant communities were inspected to determine vegetative losses, requirements for stabilization efforts, recovery potentials, and long-term rehabilitation needs. A literature review was conducted to obtain baselines data on soils, hydrologic processes, plant communities, noxious weeds/non-native invasive species, and the importance of vegetative species. Noxious weed species accounts were taken from species profiles in Bossard et al. (2000). Information used in this

assessment was also generated from GIS databases and discussion with species experts and natural resource managers from ACBCI, BLM, USFS, and USFWS.

C. Findings

1. Vegetation Communities

Based on review of burn severity maps and initial reconnaissance flights of the fire, it was determined that long term negative impacts to natural vegetative regrowth would be minimal. See the Watershed Assessment section in this document for a thorough discussion of burn severity. There were several sites in W. Palm and Andreas Canyons where fire intensities were moderate to high and could show slow recovery. These sites will be more prone to invasion by noxious weeds (see below for further discussion). Over most of the fire on ACBCI and BLM lands soil burn severity was relatively low. This means root crowns and the seed bank will likely remain viable. Most of the shrub species recover from epicormic roots or adventitious buds—sprouting from underground roots or buds, although reproduction from seed also occurs. On soils that did not experience long residency time from the fire, seeds below the surface should grow providing climatic conditions are favorable through the spring of 2014. In short, it appears that natural recovery should occur across most of the fire area.

With this determination made, the focus of the vegetation assessment became the impacts of noxious weeds to burned areas on ACBCI and BLM lands.

2. Noxious Weeds/Non-native Invasive Species

The loss of native vegetation, prolific seed production of weeds, and positive affect of fire on many invasive species make burned areas susceptible to colonization by those weeds present in the system and those brought in by visitors.

Fountain grass (*Pennisetum setaceum*), Saharan Mustard (*Brassica tournefortii*), castor bean (*Ricinus communis*), Tamarisk (*Tamarix spp.*), and spear grass (*Stipa capensis*) were identified to occur within the fire perimeter and represent the greatest threat to colonize recently burned areas. ACBCI rangers are actively treating these species in W. Palm, Murray, Andreas, and Tahquitz canyon using manual and chemical methods (See Treatment Map). There is a high likelihood that weed seeds will be transported to burned areas where they did not previously occur through downstream sediment deposition, debris flows, and introduction by the public on trails, roads, and day use areas.

Early detection and rapid response (EDRR) techniques are the most effective methods to find and control new invasions. EDRR coupled with integrated pest management methods, which include manual removal and chemical treatments, will serve as an effective strategy to battle invasive species. Hand pulling, grubbing out, and targeted chemical applications will allow for control while still protecting sensitive habitats on tribal and BLM lands. These methods are consistent with the tribal and BLM Habitat Conservation Plans, Trails Management Plans, and Forest Management Plans.

The EDRR approach will be particularly important in the control of *Stipa capensis*, which is a relatively recent invader to the eastern slopes below approx. 2700 feet. Cheatgrass, which is wide spread throughout California desert environments, is highly invasive and has been detected near the fire perimeter as well. This species can rapidly colonize new areas post fire and should be controlled immediately, if detected.

The following table shows habitats and response to fire of weeds located within the Mountain Fire perimeter on ACBCI and BLM lands.

Species	Cal-IPC Inventory Rating	Ecological Occurrence	Fire Response
Fountain grass (<i>Pennisetum setaceum</i>)	Moderate	Desert canyons, disturbed areas; grows up to 2,000ft	Well adapted to fire, contributes to spread; plants recover to pre-fire densities quickly; increased fuel load
Saharann Mustard (<i>Brassica tournefortii</i>)	High	Areas of wind blown sand, disturbed sites; grows up to 3,300 ft.	Hard seed coat allows seeds to survive fire.
Castor bean (<i>Ricinus communis</i>)	Limited	Riparian areas, drainage; intolerant of cold temps; grows in wide variety of soil types	Seeds readily germinate post fire
Tamarisk (<i>Tamarix spp.</i>)	High	Riparian areas, drainages; found where surface and subsurface water available	Fire won't kill roots; returns quickly post fire; reproduces through seed and vegetatively
Speargrass (<i>Stipa capensis</i>)	Moderate- Alert	New invader spreading rapidly in arid to semi –arid areas.	Well adapted to fire, contributes to spread; plants recover to pre-fire densities quickly; increased fuel load

3. Impacts of BAER Emergency Stabilization Treatments

Currently, no impact is expected from BAER emergency stabilization treatments that are being prescribed. No seeding or hill slope mulching treatments are being proposed, therefore the accidental introduction of weed seeds is not an issue. A specification to clean out springs that have been impacted by sediment to increase drinking water sources for Peninsular bighorn sheep is being proposed. This treatment focuses on freshly deposited sediments and care will be taken to ensure native vegetation around spring sites is undisturbed. All other ES treatments take place outside of the fire area and focus on protection of infrastructure and public safety. Impacts should be re-evaluated if new treatments are proposed in the future.

IV. RECOMMENDATIONS

A. Emergency Stabilization

Specification #4 Noxious Weed Detection and Control

Assess known locations within the burned area and or adjacent to the West Palm Canyon within 10 weeks after fire containment to determine if noxious weeds will disperse seed onto the burned/disturbed sites. After vegetation green-up in the spring of 2014 assess known noxious weeds/non-native invasive plant species on Agua Caliente Tribal lands and BLM lands within the burn. Assess for possible invasions along trails, burned areas and fire suppression impacted areas within the perimeter of the Mountain Fire. Sites for

examination should include existing locations and areas that have a high probability for invasion within the burned area. Prioritize treatments to control the establishment and spread of noxious weeds. Integrated Pest Management (IPM) techniques utilizing manual and chemical control methods will be employed.

Noxious weeds have been documented on both ACBCI and BLM lands in Andreas, W. Palm, Murray and Tahquitz Canyons, as well as perennial and ephemeral springs within the burn area. Species include African fountain grass, Saharann mustard, castor bean, spear grass, and Tamarix spp.

B. Management Recommendations- Rehabilitation (Non-Specification)

Long-term monitoring transects should be established in the burn area to describe vegetation recovery, rangeland condition and trend, and soil stability. Sampling should determine species cover and density and possibly composition. Monitoring methodologies will be those approved by ACBCI and BLM. Suggested methods are point intercept and others as described in the Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems found on the Jornada Experimental Range website: http://jornada.nmsu.edu/sites/default/files/Quick_Start.pdf. Data should be generated from study sites inside and outside of the burn for comparisons of vegetation recovery rates and survival, invasive species colonization, and other fire effects.

Monitoring of the treatment effectiveness of invasive control activities should be conducted. Pre and post treatment surveys can be used to describe treatment effectiveness and provide data that can be used to adaptively manage control efforts. In addition to quadrat or transect sampling, photo points should be established to provide photo documentation of pre and post treatment changes.

Sampling should also be conducted in riparian and spring sites to document species recovery and hydrologic function. If monitoring reveals poor natural recovery, rehabilitation/restoration planting may be necessary to jump start habitat recovery. A supplemental funding request should be submitted for Burned Area Rehabilitation funding if warranted.

The Mountain Fire provides a unique opportunity for botanists and the scientific community to determine species and habitat responses to wildfire. Given the high level of interest regarding the effects of the fires to the many species impacted by the fire, it seems prudent for botanists to collaborate on a list of questions to address identified concerns. The limited focus of the DOI BAER Team to address immediate treatments to stabilize vegetative resources occurring on DOI lands allowed only a cursory assessment of fire effects to the many other important species that contribute to the biodiversity of the area. As assessment and study continues, if additional information becomes available on fire effects to plant communities and invasive species, agency vegetation specialists may re-assess the potential need for rehabilitation treatments, with subsequent requests for burned area rehabilitation funding.

V. CONSULTATIONS

Margaret Park, ACBCI, Director of Planning and Natural Resources
Mike Herman, ACBCI, Lead Ranger
Ralph Kato, ACBCI, Canyon Lands Director
Joyce Schlachter, BLM Palm Springs, Wildlife Biologist
James Gannon, BLM Palm Springs, Rx Fire and Fuels Specialist
Jim Foote, BLM Palm Springs, San Jacinto Monument Director
Kim Boss, San Bernardino National Forest, Wildlife Biologist
Dave Austin, San Bernardino National Forest, Wildlife Biologist
John Taylor, FWS-Palm Springs Field Office, Fish and Wildlife Biologist

REFERENCES

Agua Caliente Band of Cahuilla Indians. 2010. Tribal Habitat Conservation Plan. Chapters 3-4.

Agua Caliente Band of Cahuilla Indians. 2000. Trails Management Plan.

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Bossard, C.C., J.M. Randall, M.C. Hoshovsky. 2000. *Pennisetum setaceum* species account, in Invasive Plants of California's Wildlands.

Bossard, C.C., J.M. Randall, M.C. Hoshovsky. 2000. *Brassica tournefortii* species account, in Invasive Plants of California's Wildlands.

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Bossard, C.C., J.M. Randall, M.C. Hoshovsky. 2000. *Stipa capensis* species account, in Invasive Plants of California's Wildlands.

Bossard, C.C., J.M. Randall, M.C. Hoshovsky. 2000. *Tamarix ramosissima* species account, in Invasive Plants of California's Wildlands.

California Invasive Plant Council Website. www.cal-ipc.org.

Kenneth Griggs, DOI BAER Wildlife Biologist, Humboldt Bay National Wildlife Refuge Complex, Loleta, CA, 707-498-5548

EMERGENCY STABILIZATION & REHABILITATION PLAN

2013 MOUNTAIN FIRE

CULTURAL RESOURCE ASSESSMENT

I. OBJECTIVES

- A. Assess potential damage to cultural resources for the purpose of recommending treatments to stabilize archeological sites, traditional cultural properties, and historic structures from adverse effects of post fire erosion, other fire related effects, and emergency stabilization and rehabilitation actions.
- B. Consult with Agua Caliente Band of Cahuilla Indians to meet Federal legal requirements, agency policies, and agreements.
- C. Prescribe treatments to avoid or mitigate adverse effects to cultural resources that may result from post fire effects and emergency stabilization treatments.

II. ISSUES

- Post-fire risks to high value cultural resources located on alluvial fans drained by Andreas and Murray Creeks.
- Fire effects to rock art panels in the West Fork including an increase of post-fire risks to these resources.
- An elevated risk of unauthorized artifact collection as the result of denuded surfaces that increase artifact exposure.
- The risk to cultural resources as a result of proposed Emergency Stabilization treatments.

III. OBSERVATIONS

A. Background

This report addresses potential and actual effects to cultural resources within the Mountain Fire. This fire started on privately held lands located in rural Riverside County California. The Mountain Fire originated on July 15, 2013 near the junction of California State Highways 243 and 74. The fire moved onto lands managed by the San Bernardino National Forest, Bureau of Land Management, South Coastal Field Office and lands held in Federal Trust status for the Agua Caliente Band of Cahuilla Indians.

There is a great diversity of cultural resource categories and associated types that are known, or expected to exist across the landscape affected by the Mountain Fire or that have the potential to be affected by post-fire effects. These categories and types include: village sites, including former agricultural features, seasonal camps, rock art, rock shelters, lithic scatters and/or ceramic scatters, historic scatters/structures, prehistoric/historic trails, and traditional cultural properties (TCPs).

B. Reconnaissance Methodology and Identification Results

A BAER Archeologist was dispatched to the incident on July 24, 2013. On Thursday, July 25th, an in-briefing was held with staff from the Bureau of Land Management's Palm Springs-South Coastal Field Office (BLM). The BLM archeologist expressed concern over four sites located on BLM administered lands located up the West Fork Palm Canyon. On Friday, July 25th, an in-briefing was held with staff and members of the tribal council from the Agua Caliente Band of Cahuilla Indians (Tribe), and the superintendents from the BIA Palm Springs and Southern California Agencies. At the close of the in-

briefing, BAER team members met with Tribal staff to discuss and strategize field assessments.

The BAER cultural assessment was conducted between July 27th and July 30th, 2013. The cultural resources group was consisted of the DOI BAER team archeologist, the archeologist for the BLM and the Tribe's archeologist accompanied by various tribal rangers, and with the support of the Tribe's Tribal Historic Preservation Officer (THPO). Fieldwork activity focused on: 1) cultural values at risk in the West Fork Palm Canyon watershed and 2) cultural values at risk located on the alluvial fan below Andreas and Murray Canyons.

West Fork Palm Canyon

Cultural values at risk were identified on both BLM and Tribal lands. Four sites were identified on BLM lands that were affected by the fire. Cultural constituents associated with these resources include: rock art (both petroglyphs and pictographs); lithic and ceramic scatters; bedrock milling features; portable milling implements; and a trail segment. The BLM archeologist accompanied by DOI BAER team hydrologists and a Tribal Ranger assessed these sites on Sunday July 28th. Two sites and two Traditional Cultural Properties (TCPs) were identified on Tribal lands. The TCPs are associated with springs that follow an apparent fault zone. Cultural constituents associated with these resources include: petroglyphs; lithic and ceramic scatters; bedrock milling features; portable milling implements; and midden. The Tribal THPO, Tribal archeologist, other Tribal staff, and a Tribal ranger visited one of these two sites on Thursday July 25th, 2013. The purpose of the site visit was to determine if petroglyph panels had been damaged from fire effects.

Alluvial Fan

Seven sites located across the alluvial fan between Andreas and Murray Creeks were assessed for cultural values at risk. Two additional sites, one at the mouth of Andreas Canyon and the other located at the mouth of Murray Canyon were also assessed. Most if not all of these resources are within the Andreas Canyon National Register District. Many feature types are found within this area, including, but not limited to water conveyance systems, former agricultural plots, bedrock milling, hearths, and habitation areas. Artifact assemblages from these sites include ceramic and lithic scatters, portable groundstone, and historic trash scatters. Of the two sites located above the alluvial fan, one contains rock art, among other features, while the other site contains a sweat lodge feature.

C. Findings

The cultural resources assessment resulted in the determination that the majority of the sites are not at risk from post-fire flooding or other effects. Two sites were identified to be at a high risk of degradation from post-fire effects and treatments have been designed to mitigate the severity of such effects, should they occur. Several treatments designed to address other values at risk may have the potential to affect cultural resources. The BIA is the agency responsible for consulting with the Tribe's THPO as required under Section 106 of the National Historic Preservation Act to ensure that significant cultural resources will not be adversely affected by these treatments.

West Fork Palm Canyon

Assessment of the sites located on BLM administered lands identified minor damage from spalling and soot on petroglyph panels at one site. Additionally, the removal of the shrub component from this area has now exposed these features, making them vulnerable to defacement. Pictograph panels at this site could not be relocated. Surface artifacts appear to be currently buried in ash, and were not relocated. No emergency stabilization treatments are being recommended at these sites. The two TCPs were burned over and it is unlikely that most of the palms surrounding the springs in this area will survive. A seasonal camp located below one of the TCPs is located in an area of low burn severity and is unlikely to have sustained other than minor damage. No damage was identified on the petroglyph panels visited by Tribal staff. No emergency stabilization treatments are recommended for the cultural resources on Tribal lands in the West Fork Palm Canyon.

Alluvial Fan

In consultation with the lead BAER Team hydrologist, it was determined that post-fire flow events on the alluvial fan present a very low risk to most of the associated cultural landscape and the Andreas Canyon National Register District. One site is located at the toe of the alluvial fan and is currently being compromised by side cutting of the stream bank. Therefore, increased streamflow poses a much higher risk to sensitive cultural resources at this site. Emergency stabilization treatment recommendations for this site are presented in the succeeding section. An additional site located up canyon from the alluvial fan was identified to contain a feature threatened by post-fire flows and a protective treatment has been designed to mitigate impacts to this feature.

IV. RECOMMENDATIONS

A. Emergency Stabilization

Specification #5 Cultural Site Protection: Assessment for values at risk on archaeological sites located on the Agua Caliente Indian Reservation, and downstream from the burned area resulted in the identification of a previously known sweat lodge and associated features that are at risk from post-fire flooding. This may compromise site integrity through dislocation of feature elements and transport of the associated artifact assemblage downstream. This treatment involves the installation of erosion control matting for the protection of high values at risk from increased runoff resultant from expected overtopping of the stream bank.

Specification #8 Cultural Site Stabilization: Assessment for values at risk on archaeological sites located on the Agua Caliente Indian Reservation and downstream from the burned area resulted in the identification of a previously recorded site of significance that is at a high risk of erosion from post-fire flooding. Since site degradation from pre-fire flows is already occurring, an increase in stream flow as the result of the fire will significantly exacerbate this issue. This treatment employs the construction of rock weirs to direct flows and velocities away from an unstable stream bank and terrace containing high values at risk.

B. Management Recommendations – Non-Specification Related **Describe the recommendation and reasons.**

1. Re-visit and update site records on sites in West Fork Palm Canyon.
2. Tribal Rangers should regularly patrol sites on Tribal lands and monitor condition.
3. Site Stewards should be employed on BLM lands to monitor site condition until vegetation becomes re-established.
4. Tribal Archeologist should monitor sites located on the alluvial fan after each significant flow event for the next 3-5 years to confirm that sites in this area are indeed immune from post-fire effects.

V. CONSULTATIONS

Agua Caliente Tribal Historic Preservation Office.

Patricia Garcia, THPO

Dan Hall, Bureau of Indian Affairs – Pacific Region (916) 978-6041
Contributing Agency Team Members: Katie Eskew, ACBCI and George Kline, BLM Palm Springs Field Office

BURNED AREA EMERGENCY STABILIZATION PLAN

2013 MOUNTAIN FIRE

WILDLIFE RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess the effects of fire and prescribed emergency stabilization measures to Federally Listed Threatened and Endangered Species and Designated Critical Habitats on Agua Caliente Band of Cahuilla Indians (ACBCI) and Bureau of Land Management (BLM) lands.
- Conduct Section 7 Emergency Consultation with the U.S. Fish and Wildlife Service (if necessary).
- Prescribe emergency stabilization measures, recommendations, and monitoring if warranted to benefit federally listed species.
- Assess fire impacts to culturally sensitive species as requested by the ACBCI.

II. ISSUES

A. T&E Habitat Stabilization/Recovery-

While several federally listed threatened or endangered species have been documented on lands within the Mountain Fire perimeter, only one has been documented on ACBCI and BLM lands. The peninsular bighorn sheep ([PBS] *Ovis Canadensis nelsoni*) is regularly documented on ACBCI and BLM lands within the fire perimeter. PBS has Critical Habitat designated with a tract adjacent to the northeast side of the fire, however the fire did not impact this portion of Critical Habitat. Further, the slope direction and topography of the landscape within that portion of the fire perimeter will not expose the designated Critical habitat to downstream/slope fire effects. Indirect impacts to PBS water sources were identified as a possible threat.

B. Culturally Significant Species

Though beyond the scope of emergency stabilization funding and the emergency consultation process, culturally significant species are addressed in this assessment at the request of the ACBCI. The southern yellow bat was identified by ACBCI as a culturally significant species and therefore assessment of fire impacts and emergency stabilization measures to this species was conducted.

III. OBSERVATIONS

The purpose of this Burned Area Emergency Response (BAER) Wildlife Assessment is to document the effects of the fire and proposed stabilization treatments, and potential post fire flooding and sediment delivery to all federally listed threatened and endangered species and designated critical habitats within the fire area. Secondly, fire effects to culturally significant species are also described. This assessment includes fire and downstream effects to species that occur on BLM lands and on lands held in trust by the U.S. Government, Bureau of Indian Affairs, for the ACBCI and BLM lands. A separate BAER assessment is being prepared by the U.S. Forest Service BAER Team to address fire effects to the U.S. Forest Service lands within the Mountain Fire perimeter.

This assessment also includes information on the Emergency Section 7 Consultation for this incident. Emergency Consultation was initiated with the U.S. Fish and Wildlife Service, Palm Springs Ecological Services Field Office on July 29, 2013 (Cons # 08ECAR-2013-SLI-0386). Contact with the appropriate FWS office is initiated at the beginning of the BAER process to verify T & E species lists, and assess impacts to these species. While BAER policy only allows for treatments designed to benefit federally listed species and designated critical habitats (BAER ES Handbook Section 4.2.9), non-specification, general recommendations are made for culturally significant species.

A. Background

The Mountain Fire was declared 100% contained on July 30, 2013, after burning approximately 27,531 acres across Riverside County, CA. Approximately 5,783 of ACBCI lands and 2,443 acres of BLM land were burned by the fire. Monsoonal rains have fallen over portions of the fire resulting in minor sediment and debris flows in some drainages.

Vegetation

The Mountain Fire burned through a variety of habitat types. Seven dominant vegetation types including Sonoran mixed woody and succulent scrub, desert fan palm oasis woodland, interior live oak chaparral, black oak forest, peninsular juniper woodland and scrub, redshank chaparral, southern sycamore-alder riparian woodland were identified during the vegetation assessment. These vegetation communities were impacted to varying degrees due to differential vegetation mortality and burn severity. Overall, burn severity (fire effects to soils) and vegetation mortality were low. Where top-kill occurred, the seed bank is likely intact and most of the shrub species will recover from epicormic roots or adventitious buds—sprouting from underground roots or buds. In short, it appears that natural recovery should occur across most of the fire area. Detailed descriptions of vegetation communities, fire effects to plant species, and watershed impacts are provided in the BAER Vegetation and Watershed assessments and associated maps.

B. Reconnaissance Methodology and Results

Information used in this assessment was generated from review of relevant literature, recovery and management plans, GIS databases, and discussion with species experts and natural resource managers from the ACBCI, BLM, USFS, USFWS and BAER team members. Field reconnaissance consisted of on-site inspection of fire impacted habitats on tribal trust lands, known occurrence sites, and areas downstream of fire perimeters that could potentially be impacted by sediment and debris flows. Field reconnaissance was conducted July 28 through July 30, 2013. In addition, an aerial reconnaissance flight was conducted from helicopters in order to assess inaccessible areas and gain a landscape level perspective on fire effects.

The FWS, Palm Springs Field Office has jurisdiction over the listed species within the area of the fires. Identification of known listed species occurrences and critical habitat is crucial to accurately assessing fire affects. The ACBCI, BLM, and FWS maintain extensive GIS databases on listed species occurrence locations and critical habitat layers for areas included within the fire perimeter. This Wildlife Assessment is a summary of fire effects to wildlife and their habitats. While the effect of the fire to the vegetation that makes up habitat is discussed, a more thorough coverage of impacts to vegetation communities and watersheds can be found in the BAER Vegetation and BAER Soil and Watershed Assessments. These reports contain more detailed description of pre and post fire vegetation, post fire vegetation recovery estimates, run-off and debris flow estimates, and results of hydrologic modeling.

As stated above, the purpose of this assessment is to discuss the potential effects of the fire, and proposed emergency stabilization actions to federally listed threatened and endangered species and designated critical habitat that occur within, or downstream of the Mountain Fire. Secondly, impacts to other culturally significant species are also discussed. This assessment is not intended to definitively answer the many questions of effect to specific species that arise during an incident such as the Mountain Fire. The purpose of this assessment is to determine the need for immediate, emergency actions that may be necessary to prevent further negative effects to listed species. Because the species discussed in this assessment have ranges that extend beyond the fire perimeters, it is important to include information at larger scale and across land ownership boundaries when discussing potential impacts to species as a whole and the need for long-term rehabilitation.

C. Findings

Analysis of GIS databases, species occurrence maps, and consultation with species experts indicates that Peninsular bighorn sheep was the only federally listed species documented on

ACBCI and BLM lands within the fire perimeter. Listed species occurrences on ACBCI and BLM outside the fire perimeter are not included in this assessment, as the consultation is only focused on BAER emergency stabilization treatments. On a landscape level, multiple T & E species have been documented on adjacent USFS lands, however these areas of the fire are covered under a separate, USFS BAER Team assessment and consultation.

1. Mountain Fire Species List

A species list was generated on July 29, 2011. The U.S. Fish and Wildlife Service (USFWS) maintains the current Proposed/Listed Threatened-Endangered/Candidate species list and publishes the information in the Federal Register. Under the direction of the FWS Palm Springs Field Office, an official species list was generated using the Information, Planning and Conservation System (IPAC) online interface on July 29, 2013. Below is the comprehensive list of threatened and endangered species evaluated on ACBCI and BLM lands within the Mountain Fire.

Common Name	Scientific Name	Listing Status	Biological Assessment Status
Peninsular bighorn sheep	<i>Ovis Canadensis nelsoni</i>	Endangered	Addressed in B.A.

The following species were identified as occurring inside the fire perimeter but are not found on ACBCI or BLM lands, therefore they were not addressed in this assessment. This determination was made in consultation with the Palm Springs Field Office, USFS, BLM and ACBCI biologists. These species should be addressed in the USFS BAER Plan and consultation.

Common Name	Scientific Name	Listing Status	Biological Assessment Status
Mountain yellow-legged frog	<i>Rana muscosa</i>	Endangered	No effect; Found within fire perimeter, but no occurrence data or designated critical habitat on ACBCI or BLM land.
Southwestern willow flycatcher	<i>Empidonax traillii</i>	Endangered	No effect; Found within fire perimeter, but no occurrence data or designated critical habitat on ACBCI or BLM land.
Quino checkerspot butterfly	<i>Euphydryas editha quino</i>	Endangered	No effect; Found within fire perimeter, but no occurrence data or designated critical habitat on ACBCI or BLM land.

The following species were identified, on the IPAC species lists provided by the FWS Palm Springs Field Office, as federally listed species potentially existing within, adjacent to, or downstream from the fire areas. Through post fire reconnaissance, review of GIS data layers, and consultation with local experts, it was determined that these species were not affected by the fire assessed in this report (no habitat within or adjacent to the fire areas and/or inventories prior to the fires determined absence), or expected to be affected by potential post-fire flooding or run-off.

Common Name	Scientific Name	Listing Status	Biological Assessment Status
Casey's june beetle	<i>Dinacoma caseyi</i>	Endangered	No effect; no occurrence data, downstream effects or designated critical habitat on ACBCI or BLM land or within the fire perimeter.
Coachella Valley fringe-toed lizard	<i>Uma inornata</i>	Threatened	No effect; no occurrence data, downstream effects or designated critical habitat on ACBCI or BLM land or within the fire perimeter.

Desert tortoise	<i>Gopherus agassizii</i>	Threatened	No effect; no occurrence data, downstream effects or designated critical habitat on ACBCI or BLM land or within the fire perimeter.
Least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered	No effect; no occurrence data, downstream effects or designated critical habitat on ACBCI or BLM land or within the fire perimeter.

The determinations of no effect to species in the table above that do not occur on lands covered in this assessment were based on data provided by USFS, FWS, and species experts during the BAER wildlife assessment. If additional data becomes available that indicates the potential for additional affects to these species, the agency responsible for the lands those species occur on should assess effects, document concerns, and resume Section 7 consultation. The biologists may need to document species presence or absence by season and develop accurate habitat maps for each species for future use.

2. Biological Assessment for Federally Listed Species

Direct effects refer to mortality or a disturbance that flushes, displaces, or harasses the animal. Indirect effects refer to delayed effects, such as modification of habitat and effects to prey species.

PENINSULAR BIGHORN SHEEP: The listed entity is a Distinct Population Segment (DPS) of a desert bighorn sheep subspecies, *Ovis canadensis nelsoni*, that inhabits the Peninsular Ranges in southern California from the San Jacinto Mountains south to the United States-Mexico International Border. However, the range of the subspecies extends south to Volcan de Tres Virgenes Mountains in Baja California, Mexico. The Peninsular Ranges population of desert bighorn sheep (Peninsular bighorn sheep) occupies moderate to steep slopes from approximately 100 to 1,400 meters (m) in elevation. The Mountain fire impacted a portion of the San Jacinto Recovery Unit, the northern most Recovery Unit for this species (USFWS 2011). A survey conducted by the California Department of Fish and Game in 2010 counted only 16 adult PBS in the San Jacinto Recovery Unit (USFWS 2011).

Bighorn sheep inhabit the eastern slopes of the Peninsular Ranges along a band of habitat running north to south (USFWS 2011). Peninsular bighorn sheep are considered unique among bighorn sheep because they utilize relatively low elevation habitat. Habitat is characterized by steep slopes and cliffs, rough and rocky topography, and sparse vegetation (Monson and Sumner 1980). Areas of flat terrain where topography is gentler are also utilized, such as canyons, washes, and alluvial fans (Monson and Sumner 1980, USFWS 2000).

In hot arid deserts, water is an important resource for bighorn sheep (Turner and Weaver 1980). Bighorn sheep require a quantity of water approximately equal to 4 percent of their body weight (3.8 liters; 1 gallon) per day during the summer months (Turner and Weaver 1980). Because annual rainfall averages are very low, perennial and ephemeral springs are important water sources. More rainfall occurs at higher altitudes above 900 m. However, the elevational distribution of PBS and avoidance of higher elevations due to predation risks limits use of water sources in higher mountain regions. PBS use a wide variety of plant species as their food source and will vary their diet based on seasonal availability, range shifts, and life history stage (e.g. pregnancy, lactation, rut) (USFWS 2000).

Bighorn sheep rams and ewes tend to loosely segregate during much of the year, coming together primarily during the mating season (Bleich *et al.* 1997), which typically peaks from August through October in the Peninsular Ranges (Rubin *et al.* 2000). After a gestation of 6 months, ewes seek secluded sites with shelter, unobstructed views, and steep terrain, which aids in predator evasion to give birth (Turner and Hansen 1980). Lamb and yearling age classes experience high mortality rates relative to adult bighorns, though survival rates increase dramatically once they are 2 years of age (USFWS 2000).

Bighorn sheep have large home ranges (25 km² for rams and 20 km² for ewes) that allow animals to move in response to variations in predation pressure and changes in resource availability. Within the narrow band of available habitat, PBS make use of sparse and sometimes sporadically available resources found within their home ranges. The size of individual or group home ranges depends on the juxtaposition of required resources such as water, forage, escape terrain, or lambing habitat and, therefore, varies geographically (USFWS 2000). In many populations animals have a smaller home range in summer (Elenowitz 1983), presumably due to their limited movement away from permanent water sources at that time of year.

The PBS Recovery Plan identified “Essential Habitat” (not to be confused with Critical Habitat) for PBS to delineate areas believed to be necessary for a self-sustaining population with a high probability for long-term survival and recovery in the Peninsular Ranges. Habitat consists of the areas that provide bighorn sheep with the various physical and biological resources (e.g., space, food, water, cover) potentially needed for: 1) Individual and population growth, and (2) normal behavior with protection from disturbance (USFWS 2000). Approximately 4,167 acres of Essential Habitat were impacted by the Mountain Fire.

Direct Fire Effects: Mortality as a direct result of the fire is unlikely based on described fire behavior, preferred habitat types and elevations used by PBS, and their ability to move quickly to safe ground. Incident action plans describe a fire that backed down slopes on the eastern flank of the fire. This would be a slow moving, less intense fire that would allow any PBS in the area to move out the path of flames and smoke. Also, the fire only reached the upper edge of the elevational gradient preferred by PBS.

Indirect Fire Effects: PBS will experience a temporary loss of habitat as a result of the Mountain Fire. Foraging areas, water sources, and lambing areas will be negatively affected in the short term. Much of the vegetation experience top-kill, where the above ground bio mass has been burned away, and will be unavailable as forage until re-growth occurs. PBS will be forced to move away from burned areas in order to forage. However, as stated above in the vegetation section, grasses, forbs, and shrubs that make up the bulk of PBS diet will quickly re-sprout because burn severity was very low to low over most of their use areas. PBS will likely benefit from the fire as fresh new growth begins to return. New regrowth is very palatable and high in nutrient content due to nutrients added to the soil from burned vegetation. PBS will likely be able to expand their range within the burned area, as the fire removed much of the cover at higher elevations that served to hide predators such as mountain lions. This may provide them with increased forage and sources of water. The loss of cover for predators may also result in higher reproductive success and lamb/yearling survival as predation rates on susceptible age classes decrease. It is unclear how the burned area will impact seasonal migration routes. The lack of predator cover and open aspect could make travel easier, but the lack of forage, impacts to water sources and changes in physical attributes could force PBS to avoid burned areas and alter migratory routes and home ranges.

The primary concern for land managers and biologists regarding indirect impact to PBS is impacts to drinking water sources. In the arid desert environment in which PBS live, water

is critical to their survival and reproductive success. PBS make use of perennial and ephemeral springs and pools in the drainages impacted by the Mountain Fire. Because the upper watershed was burned, sediment, ash, and debris are expected to travel down slope and down drainage for the next two to three years. In fact, a monsoonal storm that rained on the fire area before containment moved ash and sediment into springs and pools resulting in decreased capacity and water quality. Smaller springs and pools could be completely devoid of free standing water as a result. While the amounts of sediment, ash, and debris will decrease after a several storms, the short term impact could be devastating to such a small population. ACBCI rangers and BAER specialists inspected several springs and pools within multiple drainages and documented sedimentation already occurring. While water will remain in the soil and continue to support riparian vegetation when springs have inches to feet of sediment capping them, springs in the area are not productive enough to push free standing water through the sediment cap. The critical need for water, especially during summer months, their endangered status, and the cost effective methods used effectively to keep springs open warrants and emergency stabilization treatment to clean out sediment from springs (See Recommendations Section).

Impacts of BAER Emergency Stabilization Treatments: Currently, no negative impacts are expected from BAER emergency stabilization treatments that are being prescribed. No seeding or hill slope mulching treatments are being proposed; therefore the accidental introduction of weed seeds is not an issue. A specification to clean out springs that have been impacted by sediment to increase drinking water sources for PBS is being proposed to mitigate the fire impacts described above (see Recommendations Section below). This treatment focuses on freshly deposited sediments and care will be taken to ensure native vegetation around spring sites is undisturbed. PBS will benefit significantly from this treatment. All other ES treatments take place outside of the fire area and focus on protection of infrastructure and public safety. Impacts should be re-evaluated and consultation should be re-initiated if new treatments are proposed in the future.

Based on field reconnaissance, literature reviews, and discussions with biologists and regulatory specialists, BAER Emergency Stabilization treatments “**may effect, but are not likely to adversely affect** the Peninsular bighorn sheep. Furthermore, these actions do not have the potential to result in destruction or adverse modification of designated critical habitat. BAER ES treatments will benefit PBS in the near and long term.

3. Culturally Significant Species

Due to the expressed concerns of representatives from the ACBCI (M. Park, pers. comm.), fire effects to the southern yellow bat and its habitat are discussed below.

The southern yellow bat occurs in extreme southeastern California to southwestern Texas, and the northwestern portion of Mexico, including Baja. It roosts in trees (primarily palm trees) and appears to prefer the dead fronds of palms. Its range appears to be expanding due to the use of palm trees for landscaping. This species is thought to be non-colonial, although aggregations of up to 15 have been found in the same roost site.

Southern yellow bats have been recorded in Palm, Andreas, and Murray canyons on the Reservation. The southern yellow bat is not federally listed but has been designated as a Tribal sensitive species. Conservation needs for this species include the protection and enhancement of palm oases as well as the development of a wildland fire management policy to address consideration of southern yellow bat habitat requirements versus fire risks associated with untrimmed palm trees. Outside of outright loss of palm trees themselves and foraging habitat, the most serious threat to the southern yellow bat would be loss of

dead palm fronds, which can result from fire or pruning when trees are used for landscape purposes (ACBCI 2010).

Direct Fire Effects: If southern yellow bats were roosting in palm fronds within the fire area when individual stands of palms were engulfed by the flame front, mortality is likely. The dead fronds in which they roost are extremely flammable and there is little nearby cover that they could fly to for shelter. However, the fire did slowly back down the eastern slopes within the fire perimeter. If stands were engulfed during the night the bats would have likely been foraging away from palm stand and could have flown to shelter outside of the fire.

Indirect Fire Effects: The loss of roost habitat is the most significant indirect impact to this species. While many palm stands were burned, this species of palm is extremely fire tolerant and will rebound following fire. Despite the survival of the palms, the loss of dead fronds that were consumed in the fire represents a loss of important roosting habitat. There are however, many palm stands that were unburned just outside of the fire perimeter that can provide roosting cover. Forage base will likely increase due to the heterogeneity of habitats created by the fire and nutrient releases from burned vegetation.

IV. RECOMMENDATIONS

Based on the results of the above observations:

A. Emergency Stabilization

Specification # 6 and 6a: Peninsular bighorn sheep (PBS), a Federally endangered species, widely uses ACBCI and BLM lands within the fire perimeter. Recent surveys documented only 16 adults in the San Jacinto Recovery Unit. While direct effect from the fire (i.e. mortality) is unlikely, there is the potential for indirect effect to their water sources as a result of sediment and ash deposition. Field and aerial reconnaissance efforts have documented sedimentation occurring in multiple important PBS water sources. This treatment would improve clean surface spring water by removing sediment from springs and pools that provided free standing water. Manual removal of sediment and ash to increase free standing water for PBS has been conducted by crews previously with good results. As storm and run-off events continue and even intensify, the impacts to free standing water and the endangered PBS could be devastating. This specification seeks to provide funding for emergency stabilization measures to prevent further degradation to this listed species. This is consistent with BAER Policy which states, "A burned area assessment should identify post-fire threats to federal and tribal listed or proposed threatened and endangered species and what, if any, cost effective stabilization measures can be implemented to prevent further post-fire condition degradation." (Interagency BAER Guidebook, section 4.2.9).

B. Management Recommendation – Rehabilitation – (Non Specification)

1. BAER Team involvement in the Emergency Section 7 Consultations was concluded on August 2, 2013. The determinations documented in this assessment should be reassessed, and section 7 consultation reinitiated as needed, if additional emergency stabilization measures, or vegetation management activities are proposed after August 2, 2013. If non-emergency vegetation management activities are proposed for long-term rehabilitation and restoration of the fire area, another biological assessment should be prepared.
2. Monitoring of spring and pool conditions in W. Palm, Andreas, Murray, and Tahquitz Canyons should be conducted to determine the levels of debris, sediment and ash deposition. These results will dictate the need to continue spring and pool clean-outs and document the presence of free standing water.
3. Infra-red, motion activated game cameras should be set up at springs and pools, pre and post clean-out to document treatment effectiveness. Surveys for tracks and scat can also be conducted to document use by PBS and other wildlife species.

4. Surveys of vegetation using point intercept or quadrat sampling methodologies should be conducted within and outside of the burned area. Comparisons can be made between the two sites to describe rates of vegetation recovery, and differences in species composition, structure, and density. This information can also be used to determine if active restoration techniques are needed.
5. Coordinate with the Bighorn Institute and USGS to conduct radio or satellite telemetry studies of PBS home range expansion/contraction following the fire. Data generated from this study can also be used to answer questions about survival and reproductive success.
6. Research/monitoring of southern yellow bat habitat use, distribution, and abundance should be initiated to gain a better understanding of direct and indirect fire effects to this species.
7. Research/monitoring of songbird use of burned riparian areas should be initiated to describe abundance, habitat use, and reproductive success. Comparisons should be made to study sites outside of the burn to determine impacts of the fire on this group.
8. ACBCI and BLM should consider closing public trails to springs and pools that are known to be used by PBS. These may be the only water source available and disturbance by the public could have significant negative impacts.

The ACBCI and BLM should use the information provided within this, and the other BAER disciplines' assessments, in requests for funding from other sources.

The Mountain Fire provides a unique opportunity for biologists and the scientific community to determine species and habitat responses to wildfire. Given the high level of interest regarding the effects of the fires to the many species impacted by the fire, it seems prudent for biologist to collaborate on a list of questions to address identified concerns. The limited focus of the DOI BAER Team to address immediate treatments for federally threatened and endangered species occurring on DOI lands allowed only a cursory assessment of fire effects to the many other important species that contribute to the biodiversity of the area. As assessment and study continues, if additional new information becomes available on the effects to federally listed species, agency biologists may re-assess the potential need for rehabilitation treatments, with subsequent requests for burned area rehabilitation funding.

V. CONSULTATIONS

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BURNED AREA EMERGENCY STABILIZATION PLAN

2013 MOUNTAIN FIRE

WATERSHED RESOURCE ASSESSMENT

I. OBJECTIVES

- Assess overall soil and watershed changes caused by the fire, particularly those that pose substantial threats to human life and property, and critical natural and cultural resources. This includes evaluating changes to soil conditions, hydrologic function, and watershed response to precipitation events.
- Identify potential flood and erosion source areas and sediment deposition areas.
- Identify potential threats to life, property, and critical natural and cultural resources in relation to flooding, debris flows, erosion, and sediment deposition.
- Develop treatment recommendations.

II. ISSUES

- Risk to lives and property at and below West Fork Palm, Murray, Andreas, and Tahquitz Canyons from flooding, debris flows, erosion, and sediment deposition.
- Water quality concerns from discharge of sediment and ash into West Fork Palm, Murray, Andreas, and Tahquitz Canyons.
- Damage to stream gages at Andreas, Palm, and Tahquitz Canyons from flooding and debris flows.
- Water quality concerns from tungsten discharge from the Maynard Mine in Andreas Canyon.
- Risk of sediment filling in springs where springs are below moderate and high soil burn severity areas.
- Risk to cultural sites from increased post-fire peak flood flows

III. OBSERVATIONS

A. Background

The purpose of the burned area assessment is to determine post fire caused emergency watershed conditions and to identify potential values at risk from these conditions. Identification of values at risk occurs through consultation with individuals, state, tribal, federal agencies as well as through field investigations. Not all values initially identified are determined to be at risk. If emergency watershed conditions are found and values at risk are identified and confirmed, then the magnitude and scope of the emergency is mapped and described, values at risk to be protected are analyzed, and treatment prescriptions are developed to protect these values.

The most significant factor leading to emergency watershed conditions is loss of ground cover, which leads to erosion and changes in hydrologic function in the form of decreased infiltration and increased runoff. Such conditions lead to increased flooding, debris flows, sedimentation and deterioration of soil conditions. Values at risk are human life and property and critical cultural and natural resources located within or downstream of the fire that may be subject to damage from flooding, debris flows, hillslope erosion, and sediment deposition.

The majority of the Mountain Fire burned on National Forest administered by the San Bernardino National Forest. National Forest lands are mostly on the western watersheds of the fire and at the headwaters of eastern watershed. On the eastern watersheds Agua Caliente Band of Cahuilla Indian reservation, BLM, California State Parks, and the private lands burned.

Physiography/Geology/Climate

The burned area that affects the Agua Caliente Band of Cahuilla Indian Reservation occurs on the steep mountain slopes and canyons of the San Jacinto Mountains. The San Jacinto Mountains extend for approximately 50 km (30 miles) from the San Bernardino Mountains southeast to the Santa Rosa Mountains. The San Jacinto Mountains are the northernmost of the Peninsular Ranges, which run 930 miles from Southern California to the southern tip of the Baja California Peninsula. The highest peak in the range is San Jacinto Peak 10,834 ft., and the range is also a Great Basin Divide landform for the Salton Watershed to the east.

The geologic formations include Mesozoic granite in the upper elevations and metamorphic rock in the lower elevations. The valley floor is covered by alluvial fans and stream deposits and is faulted by San Jacinto.

Climate in the mountain elevations as measured at San Jacinto Peak has an average high temperature 86° F in July with a record temperature of 101° F degrees and an average low temperature of 29° F in December with a record low of 1° F. Yearly precipitation on average is 26.36 inches with February as the wettest month with an average of 5.55 inches and June is the driest month with an average of 0.16 inches.

Climate on the valley floor as measured at Palm Springs has an average high temperature of 108.1° F in July with a record temperature of 123° F degrees and an average low temperature of 44.1° F in December with a record low of 23° F. Yearly precipitation on average is 4.97 inches with January as the wettest month with an average of 1.15 inches and June is the driest month with an average of 0.02 inches.

Soil

Soils within the eastern watersheds of the Mountain Fire consist of the following:

- Rock Outcrop - 67 percent
 - Lithic Xerorthents-Rock outcrop complex, 50 to 100 percent slopes – 13 percent
 - Wapal-Corbett families association, 2 to 50 percent slopes – 18 percent
- (Natural Resources Conservation Service, 2009 and 2012)

The majority of these soils have a gravelly sandy loam to loamy sand surface texture or is unweathered bedrock. These soils occur on steep slopes, which have an erosion hazard of moderate to very severe. They are derived from residuum (weathered in place) weathered from granodiorite (igneous granites and metamorphic bedrock).

Watershed Response

High porosity granitic soils and substrates allow for a high degree of infiltration of precipitation in pre-fire conditions in the San Jacinto Mountains.

Precipitation occurs as rain during the monsoonal late summer season and rain and snow at higher elevations during the winter. Monsoonal rains can be high intensity and winter storms can last from several hours to days.

Overland flow occurs as a result of rainfall that exceeds soil infiltration capacity and the storage capacity of depressions. On the unburned forest floor, overland flow often doesn't occur at all and when it does it follows a complex of interlinking flow paths that constantly change as organic material (litter and duff layers) and inorganic material (rock) are encountered (Huggins and Burney, 1982). Consumption of vegetation and organic litter and duff in the soil by fire alters the path of overland flow by reducing the overall length of the flow path, resulting in the concentration of flow into a shorter flow path. This concentration of overland flow increases the hydraulic energy of the flow and can result in rill erosion. At the watershed scale, the reduction of hillslope flow path lengths and the formation of rills that have a high water conveyance capacity reduce the times of concentration or the amount of time for overland flow to reach a defined point within the

watershed.

Values at Risk

- The Trading Post along the West Fork Palm Canyon is a day use area owned and administered by the Agua Caliente Band of Cahuilla Indians. This popular destination provides hiking trails from the Trading Post up West Fork Canyon, some of which are in the drainages. There are no structures at risk, but flash flooding events in post-fire watershed conditions could put employees and the public at substantial risk.
- The Andreas Day Use Area along Andreas Canyon is owned and administered by the Agua Caliente Band of Cahuilla Indians and receives a large amount of visitors. The day use area is built in the floodplain of Andreas Canyon and visitors, employees, and infrastructure are at risk to flooding. A water diversion at the gage station is at risk to plugging from flooding.
- Roads and culverts owned and maintained by the Agua Caliente Band of Cahuilla Indians below West Fork Palm, Murray, and Andreas Canyons are at risk from flooding.

B. Reconnaissance Methodology and Results

The purpose of a burned area assessment is to determine if the fire has caused emergency watershed conditions and if there are potential values at risk from these conditions. Identification of values at risk occurs through consultation with individuals, the tribe, federal agencies and through field investigation. If emergency watershed conditions are found, and values at risk are identified and confirmed, then the magnitude and scope of the emergency is mapped and described, values at risk and resources to be protected are analyzed, and treatment prescriptions are developed to protect values at risk. The most significant factor leading to emergency watershed conditions is loss of ground cover, which leads to erosion and changes in hillslope hydrologic function in the form of decreased infiltration and increased runoff. Such conditions lead to increased flooding, sedimentation and deterioration of soil condition.

Burned area evaluations included:

- Identifying fire-caused changes in soil properties and hydrologic function;
- Determining spatial extent and strength of hydrophobic soil conditions;
- Verifying and modifying the Burned Area Reflectance Classification (BARC) image to create a soil burn severity map, and if appropriate a runoff potential map;
- Identifying sediment source areas and erosion potential;
- Identifying potential flood zones; and
- Identifying potential threats to human life, property, and critical natural and cultural resources (values at risk).

The BAER Team received information from the Forest Service BAER team to help assist in determining the evaluation listed above. The main objectives of the field visits were to 1) identify and inventory values at risk, 2) identify the physical and biological mechanisms that are creating risks; 3) review channel morphology and riparian conditions; 4) inspect hillslope conditions; and 6) determine needs for emergency stabilization.

Values at risk are human life and property, and critical natural and cultural resources located within or downstream of the fire that may be subject to damage from debris flows, flooding, ash, mud and debris deposition, and hillslope erosion.

Hydrologic Modeling

Post-fire watershed response was calculated using a variety of methods and models in order to average the expected response to match professional judgment and field

observations. In this assessment the Watershed Group utilized the Agricultural Research Service out of Tucson, Arizona to model watershed response with the Automated Geospatial Watershed Assessment (AGWA). AGWA uses a Digital Elevation Model (DEM) to delineate watersheds from selected outlet points and then intersects with soil, land-use/cover, and precipitation (uniform or distributed) to derive the requisite model input parameters (Goodrich et al, 2005). AGWA is designed to provide qualitative estimates of runoff and erosion relative to landscape change. It cannot provide reliable quantitative estimates of runoff and erosion without careful calibration. It is also subject to the assumptions and limitations of its component models (Goodrich et al, 2005). Four watersheds were delineated and modeled using the 2006 NLCD landcover data, a 10m DEM from the National Map Viewer, U.S. General Soils Map (STATSGO), version 2.3.2 NRCS soils data and burn severity data developed for the Mountain Fire incident. All model results are included in the Automated Geospatial Watershed Assessment (AGWA) Results.

Soil Burn Severity

Soil burn severity mapping is intended to reflect the degree of effects caused by the fire to soil characteristics that affect soil health and hydrologic function, hence erosion rate, and runoff potential. A satellite image-derived map called Burned Area Reflectance Classification (BARC) was used to determine the magnitude of the soil burn severity. The BARC map is a degree of post-fire changes in spectral reflectance and is created by comparing near infrared and shortwave infrared reflectance values and measuring the difference between pre-fire and post-fire satellite images.

The BARC image was obtained from the Earth Resources Observation and Science Center (EROS), and was validated by a coordinated group of Hydrologists and Soils Scientists working for the Forest Service BAER team and the DOI BAER team to develop the final Burn Severity Map. Most of the mapping in areas that were not mapped by imagery was coordinated by the Forest Service and confirmed by the DOI team.

Soil Erosion

Soil erosion potential following a fire is usually greater than pre-fire potential. This is largely due to loss of soil cover (forb, grass, leaf, and needle litter), surface horizon soil organic matter responsible for structural stability, and in some cases, increased water repellency at or near the soil surface.

The AGWA tool was used to estimate hillslope erosion under post-fire conditions utilizing soils data, soil burn severity and design storms for a 10 year, 1 hour event (1.26 inches) and a 5 year, 6 hour event (2.11 inches). Pre-fire conditions are estimated with the National Land Cover Database 2006.

Watershed Response

On-the-ground field observations were conducted to determine potential watershed response. Observations included the soils, vegetation, soil burn severity, topography, lithology, climate, stream channel and hillslope response to recent precipitation events, and volume of sediment and debris stored in channels and on slopes that have been or could be mobilized. Channel morphology related to transport and deposition processes were noted, along with channel crossings and stream outlets.

The soil burn severity map provides the best indicator of increase in runoff potential. This map reflects the expected degree of change in rainfall runoff for the first year following the fire.

Watershed modeling using AGWA was completed for four outflow points in downstream areas associated with the Agua Caliente Band of Cahuilla Indians and BLM (AGWA Results). In channel infiltration rates were set to zero in all model runs. AGWA modeling results include generation of modeled channels and allow for examination flow and sediment yields for any stream segment. Results assume uniform rainfall over the entire modeled watershed. Smaller modeled areas of watersheds generated from outlet points selected farther upstream show a more significant change in watershed response – this is because post-fire change in peak stream flows attenuates more in watersheds with

greater unburned and low severity burn areas.

On-the-ground field observations within and downstream of the burned area were conducted to determine potential watershed response. Channel morphology related to transport and deposition processes were noted, along with channel crossings and stream outlets. Observations included the volume of sediment stored in channels and on slopes that could be mobilized.

Debris Flow Hazard

Debris flow hazard was modeled by the USGS Landslide Hazard Program. The modeling process produces three products: Debris Flow Probability Map, Debris Flow Volume Map, and a Combined Probability and Volume Map. The modeling is based upon a 10-year recurrence, 30-minute rainfall accumulation based on data from NOAA Atlas 14 Volume 6 precipitation frequency estimates. The Probability Map examines each watershed and assigns a percent probability for failure leading to a debris flow. The Volume Map examines each watershed and estimates the volume of debris flow should one occur. The combined map integrates the probability and volume estimates for an overall risk assessment from low to high (USGS Debris Flow Hazard Assessment Maps).

C. Findings

Soil Burn Severity

Soils in the burn area experienced low, unburned and moderate soil burn severity with very little high burn severity. Many areas experienced low residence time due to rapid fire movement. This resulted in reduced soil burn severity levels than if the fire had moved more slowly allowing additional soil heating. Also, areas of higher pre-fire fuel loading typically had higher degrees of soil burn severity for similar reasons – longer residence time and greater amounts of soil heating.

Table 1. Percentages of Burned Area by Soil Burn Severity

Land Administrator	High	Low	Moderate	Unburned	Grand Total
Bureau of Indian Affairs	0.1%	7%	8%	5%	21%
Bureau of Land Management	0.03%	4%	2%	3%	9%
California Dept. of Parks and Recreation	0.1%	3%	1%	0.02%	3%
San Bernardino National Forest	1%	16%	33%	2%	53%
Other Lands (including private)	0.1%	30%	6%	3%	14%
<i>Grand Total</i>	<i>1.3%</i>	<i>36%</i>	<i>49%</i>	<i>13%</i>	27,552 acres

Erosion Potential

Hillslopes and channels affected by the fire are comprised of a combination of soil types, burn severity classes, slopes, and pre-fire vegetation types. For any burned area, the potential for erosion has increased.

As with any model, the values produced do not represent actual annual erosion predictions due to assumptions made in the model and because actual storm events cannot be predicted. However, comparisons between output values that are based on the same set of assumptions are useful in understanding expected differences among treatments and untreated conditions over several years (AGWA Results).

Steeper watersheds with greater percent area burned had higher predicted sediment values (Table 2). Some of the springs important to Peninsular Bighorn Sheep are downstream/downhill of moderate and high soil burn severity and are at risk of sedimentation due to increased post-fire erosion.

Table 2. Modeled post-fire sediment increases relative to pre-fire conditions.

Watershed	Modeled Sediment Increases	
	10 yr, 1 hr event	5 yr, 6 hr event
West Fork Palm	187%	147%
Murray	223%	218%
Andreas	67%	63%
Tahquitz	0%	0%

Watershed Response

The likelihood of generating overland flow and stream flow in the watersheds following this fire has increased. Peak flow increases from the fire may also be augmented by sediment and debris within the active channel areas.

The drainages of concern for lands assessed by the DOI BAER Team - administered by the Agua Caliente Band of Cahuilla Indians, associated private lands, and the BLM - within the Mountain Fire burn area are West Fork Palm and Andreas Canyon due to the percentages of the watersheds burned, and proximity to downstream values at risk. A significant increase in runoff (Table 3), erosion, sediment (Table 2) and debris delivery is possible within the watersheds and stream channels of the West Fork of Palm Canyon, Murray Canyon, and Andreas Canyon with its larger watershed and higher degree of hillslope steepness.

Table 3. Modeled post-fire peak flow increases relative to pre-fire conditions.

Watershed	Modeled Peak Flow Increases	
	10 yr, 1 hr event	5 yr, 6 hr event
West Fork Palm	98%	77%
Murray	97%	105%
Andreas	41%	38%
Tahquitz	0%	0%

Watershed response of the Mountain Fire depends on the specific precipitation events that occur following the fire. If rain events are high in intensity or total rainfall amount, similar to storms experienced in the area in the past, the watershed response can be expected to include similar damaging events, such as significant flash flooding that threatens to damage property and infrastructure. The potential for increased threats from flooding can extend miles downstream.

Throughout all fire areas, vegetation recovery is largely dependent on climatic cycle and the remaining live root stock of both herbaceous and shrub species. Vegetation recovery could be rapid for shrub species that sprout following fire. Forbs and grasses may respond with the summer wet period, providing some degree of immediate ground cover. After the first year following the fire, forbs, grasses, and shrubs may provide sufficient cover to reduce any increase in watershed response to near pre-fire levels,

compensating for loss of forest canopy to some degree. Return to pre-fire watershed response will take several years.

Peak Flows and Hydrologic Modeling Results

Peak flows in streams and sediment transport are expected to increase as a result of the fire in the West Fork of Palm Canyon, Murray Canyon, and Andreas Canyon.

Table 3 shows the percent change in stream flow and sediment transport (Table 2), reflecting the difference between post-fire conditions compared to pre-fire conditions calculated with the AGWA model. Diagrams and maps that illustrate areas of highest risk or percent change in peak flood flows and sediment transport can be found in the AGWA Results. An example is shown below for Andreas Canyon at the Day Use Area (Figure 1, 2 and 3).

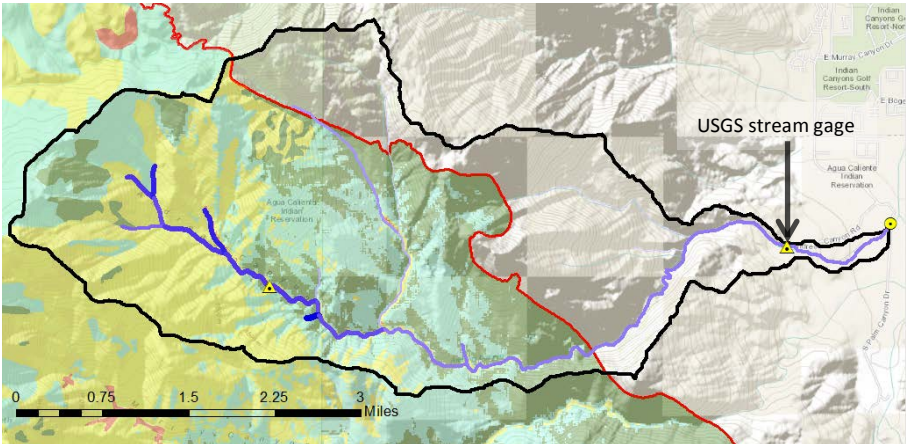


Figure 1. Map of the Andreas Canyon watershed from the AQWA modeling results highlighting the area of the watershed burned at varying soil burn severities and the location that was modeled (USGS stream gage near the mouth).

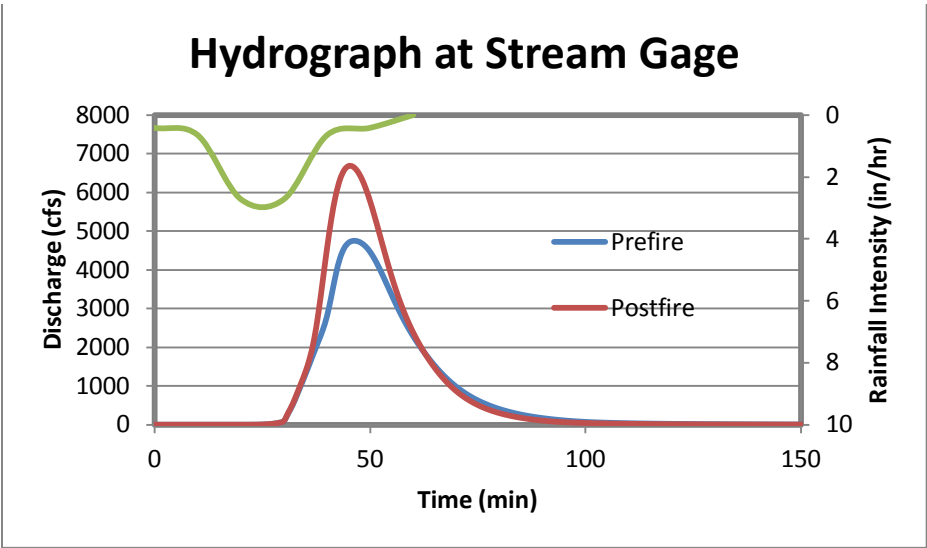


Figure 2. Hydrograph and hyetograph (rainfall distribution) showing the rain event, pre-fire and post-fire streamflow discharge for the Andreas Canyon watershed at the USGS stream gage/Day Use Area.

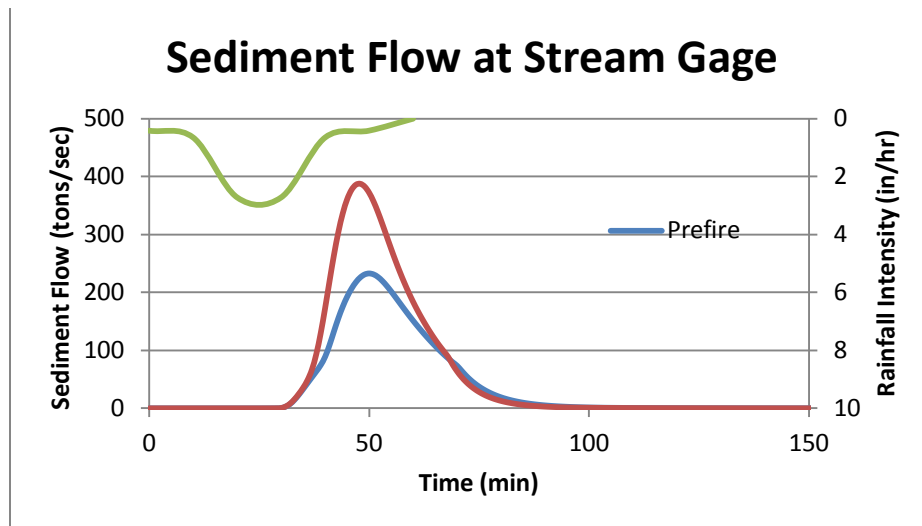


Figure 3. Rainfall distribution and pre-fire and post-fire sediment transport through time for the Andreas Canyon watershed at the USGS stream gage/Day Use Area.

Increases in stream flow and sediment transport (erosion) can be expected until affected slopes are re-vegetated. Natural vegetation recovery is expected during the first growing season in the low to moderate burned areas and will likely significantly reduce erosional effects.

Post-fire peak flows pose a threat to downstream cultural resource sites. Increased flood flows can erode and damage site on floodplains and in areas prone to channel migration. Two sites were found to be at risk of damage from post-fire flood flows.

Debris Flow Hazard

Debris flow hazard was modeled for all watersheds within the Mountain Fire by the USGS. For the purposes of the DOI BAER Team, four watersheds are represented in this document: West Fork Palm, Andreas, Murray, and Tahquitz Canyons.

The West Fork of Palm Canyon was modeled with a 60 to 80 percent probability of debris flow(s), an estimated volume of greater than 100,000 cubic meters if a debris flow occurs, and at high risk to debris flow occurrence.

Murray Canyon was modeled with an 80 to 100 percent probability of debris flow(s), an estimated volume of greater than 100,000 cubic meters if a debris flow occurs, and at high risk to debris flow occurrence.

Andreas Canyon was modeled with a 60 to 80 percent probability of debris flow(s), an estimated volume of greater than 100,000 cubic meters if a debris flow occurs, and at high risk to debris flow occurrence.

Tahquitz Canyon was modeled with a 40 to 60 percent probability of debris flow(s), an estimated volume of greater than 100,000 cubic meters if a debris flow occurs, and at moderate risk to debris flow occurrence.

Based upon field observations from the air and on the ground, debris flows do occur in the above mentioned drainages but rarely do the flows make it down to the valley floor. From the air, two debris flows were observed and one appeared to be recent (maybe 2010 flood event); however these flows had their terminus well up in the watersheds. Observations on the ground confirms that large debris (100,000 cubic meters) flows rarely, if at all, terminate on the valley floor as deposits were not observed at and below the apex of the alluvial fans. Additionally, all canyons with the exception of Tahquitz have

large California Fan Palms at the apex of the alluvial fan which indicates that large debris flows do not occur in these areas in recent history. Age dating of these trees may indicate an approximate time when the last large debris flows have occurred, as a large flow would destroy the trees. Based upon this premise, this might indicate that a large flow has occurred in Tahquitz Canyon in recent history and there are large rounded boulders to substantiate this; however there are other circumstances that may preclude palm growth in this area.

Values at Risk

Field evaluations were conducted to determine if threats to life, property, or natural resources were present within the Agua Caliente Band of Cahuilla Indians reservation. The Trading Post along the West Fork Palm Canyon, the Andreas Day Use Area along Andreas Canyon, and roads and culverts below West Fork Palm, Murray, Andreas Canyons, were evaluated for risk from increased flooding and erosion. The inclusive list is presented in Table 4.

The Level of Risk is determined by the immediate need for protection against flooding and the impact it would have to life and property. The "High" Levels of Risk should be the first priority but all of the values at risk need treatment as soon as possible and should not be ignored.

The Treatment Map in Appendix 4 displays all the treatment locations.

Table 4. Values at Risk from Mountain Fire.

Owner	Value at Risk	Potential Threat	Level of Risk	Treatment	Specification Number
Agua Caliente	Andreas Canyon	Flood flows damaging infrastructure	Moderate	Installation of floodplain treatments	1
Agua Caliente	Roads	Debris and flood flows damaging the road and creating unsafe driving conditions	Moderate	Road Debris Removal	2
Agua Caliente	Life	Flood flows and debris posing threats to people	High	Warning signs and kiosks	3
BLM and Agua Caliente	Springs	Post-fire sediment increases filling in springs	Moderate	Spring protection	6
Agua Caliente	Culverts	Debris and flood flows plugging culverts and damaging roads	Moderate	Culvert Debris Removal	7
Agua Caliente	Cultural Site	Increased post-fire flood flows could cause bank erosion and surface scour	Moderate	Cultural Site Stabilization	8

IV. RECOMMENDATIONS

Based on the results of the above findings, emergency stabilization treatments are as follows:

A. Emergency Stabilization

Specification 1: Andreas Canyon Infrastructure Protection

Three treatments to protect infrastructure are recommended at Andreas Canyon Day Use Area. The treatments are designed to divert flood water back into the channel and minimize damage to the parking lot, access road, and other infrastructure. Apart from this specification, other objects such picnic tables and portable outhouses should be moved away from the stream in anticipation of flooding events. The tribe might consider permanently relocating the portable outhouses away from the stream channel and outside of the floodplain as they are at risk to flooding even without fire in the above watershed.

The first treatment installs four large rocks in the flood plain on the left bank (looking downstream) upstream of the gage station which is about 75 feet away. This will help to direct flow back into the channel and the floodplain to the south. The second treatment installs an earthen berm on the left bank of the stream at the concrete crossing just below the gage station. This berm will help to keep the flow in the channel. The third treatment installs a rolling dip structure with the option of paving the structure on the access road just past the end of the asphalt where a horse trail sign is installed. This will ensure that any flow that bypassed the first two berms is directed back to the channel before running down the road, damaging the road and potentially impacting cultural resource sites.

Specification 2: Road Debris Removal

Post-fire flooding may deposit debris on the road surfaces creating a risk to driving or make the road impassable to traffic. Paved and earthen roads below West Fork Palm, Andreas, and Murray Canyons should be inspected after storm events and cleared as necessary.

Specification 3: Flood Warning: Signs and Hazard Warnings

Post-fire flooding may endanger the public and tribal employees along roads and in day use areas. Installation of flood warning signs along roads and information kiosks at the Trading Post, Andreas Day Use Area, and Tahquitz Canyon Visitor Center is specified. Suggested locations for the road signs are provided in the BAER Plan, Appendix 4, Treatment Map. It is recommended for the tribe and the National Weather Service (Alex Tardy) share information concerning weather events which may impact day use areas, and prompt the tribe to close the day use areas prior to the weather event. The Weather Service can provide alerts to the Tribe and community if/when storms are forecasted from hours to days in advance.

Specification 6: Spring Protection

Increases in post-fire erosion rates in moderate and high soil burn severity increase the potential for sediment to impact springs throughout, and downhill from, the burn area. These springs are important watering source for the endangered Peninsular Bighorn Sheep. See the Wildlife section for treatment specifications and recommendations.

Specification 7: Debris Removal from Culverts and Ditches

Post-fire flooding may plug culverts, ditches, and a water diversion structure. Plugged culverts may deposit debris on roads or wash roads out, creating a risk to driving or make the road impassable to traffic. Sediment from post-fire conditions may plug a water diversion at the Andreas gage station.

Culverts along paved and earthen roads below West Fork Palm, Andreas and Murray Canyons should be inspected after storm events and cleared as necessary. The water diversion at the gage station should be cleaned as soon as possible, prior to storms.

Specification 8: Cultural Site Protection

Increases in post-fire flood flows pose a risk to cultural sites on lower floodplains and on areas at risk of channel migration. Two sites were determined to be at risk from increased peak flows and are recommended for treatments. See the Cultural Resources section for information about the treatment specification and recommendations.

Management Recommendation Non-specification:

Movement of channel into a historic location to protect downstream values at risk in the existing channel:

Once the major watersheds draining from the Mountain fire approach Palm Canyon Wash they drain onto flat alluvial fans. On these alluvial fans the channels have often migrated between their existing locations and historic channel. Channel migration often happens during very high flows especially after wildfires. There are multiple stream channels from past floods that have moved through the area including the one that passes the road on a low water crossing. To protect the values at risk downstream of the crossing, BAER has recommended an in-stream treatment to divert water away from an eroding bank. The treatment should be effective, but in the long term, the treatment may not hold and the value could again become at risk from high flood flows. The best alternative to protect the value at risk is to design a treatment upstream of the road crossing that diverts the channel into old, preexisting channels that takes the flows out of the existing active channel re-directing flow. This will require redesign of the road with a long low water crossing (1/8 mile) north of the existing active channel. The most effective design would not include culverts which would allow the flows to occupy several older channels over time in this 1/8 mile road segment. Another potential design would be to try to focus the flow in only one historic channel to reduce the need to construct a long low-water crossing.

There are many historic channels on the alluvial fan between Palm Canyon Wash and the mountains where the channel are confined. The best channel would be to the north of the existing active channel, primarily because the southern historic channel could impact other cultural sites.

V. CONSULTATIONS

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VI. REFERENCES

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BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

APPENDIX II COMPLIANCE



Hawk in Tahquitz Canyon

APPENDIX II - ENVIRONMENTAL COMPLIANCE

FEDERAL ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

All projects proposed in the 2013 Mountain Fire Emergency Response Plan (ES Plan) that are prescribed, funded, or implemented by federal agencies must comply with the National Environmental Policy Act (NEPA). The assessment of project conformance with NEPA (42 U.S.C. 4321 et. seq.) is conducted in accordance with the Council on Environmental Quality Regulations (40 CFR 1500-1508) and the Department of the Interior Manual (516 DM 1 – 7).

RELATED PLANS

The 2013 Mountain Fire ES Plan was reviewed for consistency with relevant plans and policies for the Bureau of Indian Affairs, the Agua Caliente Band of Cahuilla Indians and the Bureau of Land Management:

Forest Management Plan for the Agua Caliente Indian Reservation, 2007

Environmental Assessment & FONSI, Forest Mgmt. Plan, 2008

Indian Canyons Master Plan, 2007

Indian Canyons Park Management Agreement, 1992

Tribal Fire Management Plan, 2007

Bureau of Land Management Environmental Assessment of Tamarisk and Other Exotic Weeds, 2008

The goals and objectives of the Tribe in these plans are to: “incorporate preservation and restoration of cultural, natural and scenic values, thereby creating a strong sense of place that reflects the cultural and natural history of the Tribe.”

The priorities of the Agua Caliente Fire Management Plan (FMP) are:

- Protection of life
- Protection of property, and natural and cultural resources

The FMP was created to “identify various fuel management techniques that will be used to protect the Tribe’s natural and cultural resources, manage wildland fires that may occur on properties within the Agua Caliente Indian Reservation, and address rehabilitation efforts that would be necessary after a wildland fire.”

The 2013 Mountain Fire ES Plan is in compliance with the Tribe’s Fire Management Plan and Forest Management Plan for implementation of wildland fire stabilization and rehabilitation efforts for the reduction of flooding due to damming of stream channels from debris and enhancement of native species regeneration.

The Bureau of Land Management’s Environmental Assessment for the Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosphate and Imazphyr Herbicides is incorporated by reference. Treatment of noxious weeds, specifically tamarisk and fountain grass will be tiered to the EA.

APPLICABLE AND RELEVANT CATEGORICAL EXCLUSIONS

Many of the individual actions (also referred to as projects or treatments) proposed in the 2013 Mountain Fire ES Plan meet the requirements to be Categorically Excluded from further environmental analysis.

Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the Burned area emergency response team and documented below.

Department of the Interior Categorical Exclusions (Appendix 1 of 516 DM 2):

- 1.6 Nondestructive data collection, inventory (including field, aerial, and satellite surveying and mapping), study, research, and monitoring activities.
- 1.13 Post-fire rehabilitation activities not to exceed 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire. Such activities: Shall be conducted consistent with agency and Departmental procedures and applicable land and resource management plans; Shall not include the use of herbicides or pesticides or the construction of new permanent roads or other new permanent infrastructure; and Shall be completed within three years following a wildland fire. (Refer to the Environmental Statement Memoranda Series for additional, required guidance.)

BIA Categorical Exclusions (516 DM 10):

- A Operation, Maintenance, and Replacement of Existing Facilities. Examples are normal renovations of buildings, road maintenance, and limited rehabilitation of irrigation structures.
- L(4) Roads and Transportation. Installation of fencing, signs, pavement markings, small passenger shelters, traffic signals, and railroad warning devices where no substantial land acquisition or traffic disruption will occur.
- H(7) Forestry. Approval of forest stand improvement projects less than 2,000 acres when in compliance with policies and guidelines established by a current management plan addressed in earlier NEPA analysis.
- M(1) Other. Data gathering activities such as inventories, soil and range surveys, timber cruising, geological, geophysical, archeological, paleontological and cadastral surveys.
- M(3) Other. Actions where BIA has concurrence or co-approval with another Bureau and the action is categorically excluded for that Bureau.

BLM Categorical Exclusions (516 DM 11)

- A(2) Fish and Wildlife. Minor modification of water developments to improve or facilitate wildlife use (e.g. modify enclosure fence, install flood valve, or reduce ramp access angle.)

Statement of Compliance for the 2013 Mountain Fire ES Plan

This section documents consideration given to the requirements of specific environmental laws in the development of the Mountain Fire ES Plan. The following executive orders and legislative acts have been reviewed as they apply to the Mountain Fire ES Plan:

National Historic Preservation Act (NHPA) – Both BIA Archeologist Dan Hall and Katie Eskew, Tribal Archaeologist, determined that the nature of the treatments being proposed require Section 106 compliance. The Tribal Historic Preservation Officer will be consulted.

Executive Order 11988: Floodplain Management – No proposed treatments would have a significant detrimental impact to floodplains. Although one treatment is proposed within an intermittent channel to protect a substantial site, it will not adversely impact the floodplain function. The natural and beneficial value of the floodplain will be preserved.

Executive Order 11990: Protection of Wetlands – No proposed ES treatments would result in long-term impacts to or loss of wetlands and all proposed treatments are in compliance with this order.

Executive Order 12372: Intergovernmental Review – Coordination and consultation is ongoing between the affected Tribe, BIA and Interagency BAER Team. A copy of the ES Plan will be disseminated to these parties.

Executive Order 12892: Federal Actions to Address Environmental Justice in Minority and Low-income Populations – The actions proposed in this plan will not result in adverse human health or environmental effects for minority or low-income populations and Indian Tribes.

Endangered Species Act – Section 7 Consultation: Due to the nature of the proposed treatments, there is minimal potential for impacts to Federally-listed threatened and endangered species and a determination of not likely to adversely affect was made. A species list was obtained from the U.S. Fish and Wildlife Service on July 29, 2013. The species considered in this determination included: Casey's June Beetle, Peninsular Bighorn Sheep, Coachella Valley milk-vetch, Mountain yellow-legged frog, Coachella Valley Fringe-Toed Lizard, Desert tortoise, Least Bell's vireo, Quino checkerspot butterfly and Southwestern willow flycatcher. Emergency Section 7 consultation with the U.S. Fish and Wildlife Service was not initiated or conducted.

Clean Water Act: Section 404 Permit from U.S. Army Corps of Engineers and Section 401 certification from the U.S. Environmental Protection Agency may be obtained.

Clean Air Act: Treatments prescribed may have short-term, negligible to minor impacts on air quality due to equipment emissions and/or increases in particulates during ground based activities. However, these would not differ significantly from routing land use practices for this area. Therefore, proposed treatments are in compliance with this act.

DOI EXCEPTIONS TO CATEGORICAL EXCLUSIONS

The CEQ Regulations at 40 CFR 1508.4 require agencies to consider whether fairly routine actions involve extraordinary circumstances that, per NEPA, trigger an agency to prepare additional assessment and consideration. If it is determined that any of the exceptions listed in the table below apply to a proposed action, that action may not be categorically excluded, and an EA or an EIS must be prepared. The list below is a Department of the Interior list that applies to all DOI agencies; agencies often have additional items on their own list of Departmental exceptions. All treatments, except for Invasive Weed Control, that are proposed for the Mountain Fire ES Plan have been compared against the list of Extraordinary Circumstances listed below and were found not to be an extraordinary circumstance.

Yes	No	Extraordinary Circumstance. Would this action...
	X	2.1 Have significant impacts on public health or safety?
	X	2.2 Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); floodplains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas?
	X	2.3 Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources [NEPA Section 102(2)(E)]?
	X	2.4 Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?
	X	2.5 Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?
	X	2.6 Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects?
	X	2.7 Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office?
	X	2.8 Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species?
	X	2.9 Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment?
	X	2.10 Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898)?
	X	2.11 Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007)?
	X	2.12 Contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112)?

CONCLUSION

I have reviewed the proposals in the Mountain Fire ES Plan in accordance with the criteria above and have determined that the proposed actions would not involve or result in any significant environmental effect. Therefore it is excluded from further environmental (NEPA) review and documentation or tiered from existing and valid environmental documents. No emergency coordination or consultation is necessary to ensure compliance with the National Historic Preservation Act or Endangered Species Act. Emergency consultation will be initiated with the United States Army Corps and United States Environmental Protection Agency for treatments within stream channels.

Recommended:

Environmental Compliance Coordinator

Date

Approved:

Superintendent, Palm Springs Agency, BIA

Date

**CATEGORICAL EXCLUSION EXCEPTION REVIEW (CEER)
CHECKLIST**

Project: Mountain Fire Burned Area Emergency Response Emergency Stabilization	Date: 8/2/13
Letter and Text of category (BIA - 516 DM 10.5 ; DOI - 43 CFR46-210) 516 DM 10. 516 DM 10; 10.5 A, H(7), L(4), M(1) & M(3). <u>Operation, Maintenance & Replacement of Existing Facilities; Forestry; Roads & Transportation; Other</u> 516 DM 11; 11.5 A(2). <u>Fish and Wildlife.</u> Minor modification of water developments to improve or facilitate wildlife use (e.g. modify enclosure fence, install flood valve, or reduce ramp access angle.) 516 DM 2, Appendix 1, 1.13. Post fire rehabilitation activities not to exceed 4,200 acres (such as tree planting, fence replacement, habitat restoration, heritage site restoration, repair of roads and trails, and repair of damage to minor facilities such as campgrounds) to repair or improve lands unlikely to recover to a management approved condition from wildland fire damage, or to repair or replace minor facilities damaged by fire. Such activities: Shall be conducted consistent with agency and Departmental procedures and applicable land and resource management plans; Shall not include use of herbicides or pesticides or the construction of new permanent roads or other new permanent infrastructure; and Shall be completed within three years following a wildland fire.	

Evaluation of Extraordinary Circumstances (43 CFR 46.215):

1. This action would have significant adverse effects on public health or safety.	NO <u>X</u>	YES ____
2. This action would have an adverse effect on unique geographical features such as wetlands, wild & scenic rivers, refuges, floodplains, rivers, placed on nationwide river inventory, or prime or unique farmlands.	NO <u>X</u>	YES ____
3. This action would have highly controversial environmental effects.	NO <u>X</u>	YES ____
4. This action would have highly uncertain environmental effects or involve unique or unknown environmental risk.	NO <u>X</u>	YES ____
5. This action will establish a precedent for future actions.	NO <u>X</u>	YES ____
6. This action is related to other actions with individually insignificant but cumulatively significant environmental effects.	NO <u>X</u>	YES ____
7. This action will adversely affect properties listed or eligible for listing in the National Register of Historic Places.	NO <u>X</u>	YES ____
8. This action will affect a species listed or proposed to be listed as endangered or threatened.	NO <u>X</u>	YES ____
9. This action threatens to violate federal, state, local, or tribal law or requirements imposed for protection of the environment.	NO <u>X</u>	YES ____
10. This action will have a disproportionately high and adverse effect on low income or minority populations.	NO <u>X</u>	YES ____
11. This action will limit access to, and ceremonial use of, Indian sacred sites on federal lands, by Indian religious practitioners, and/or adversely affect the physical integrity of such sites.	NO <u>X</u>	YES ____
12. This action will contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area, or may promote the introduction, growth, or expansion of the range of such species.	NO <u>X</u>	YES ____

A "yes" to any of the above exceptions will require that an environmental assessment be prepared.

NEPA Action - - - - CE X EA _____

Project (con't): Mountain Fire Burned Area Emergency Response Emergency Stabilization

Maja Pepion, Environmental Compliance Coordinator

Name and Title of person preparing this checklist

Concur Item 7: _____ **Date:** _____
Regional Archeologist

Concur: _____ **Date:** _____
Regional/Agency/OFMC/NEPA Reviewer

Approve: _____ **Date:** _____
Regional Director/Agency Superintendent/OFMC Official

NOTES: Several actions are proposed in the Mountain Fire Emergency Stabilization Plan on the Agua Caliente Indian Reservation for mitigation of post-fire flooding and/or debris flow events following the fire. These actions include: culvert cleaning, floatable debris removal, installation of flood warning signs, installation of berms, storm patrol, road debris removal, and cultural site protection. These actions meet the Department of the Interior, Bureau of Indian Affairs, and Bureau of Land Management definitions as Categorical Exclusions under NEPA.

Worksheet

Documentation of Land Use Plan Conformance and NEPA Adequacy (DNA)

U.S. Department of the Interior
Bureau of Land Management
Palm Springs-South Coast Field Office

Note: This worksheet is to be completed consistent with the policies stated in the Instruction Memorandum entitled Documentation of Land Use Plan Conformance and National Environmental Policy Act (NEPA) Adequacy transmitting this worksheet and the Guidelines for Using the DNA Worksheet located at the end of the worksheet. (Note: The signed CONCLUSION at the end of this worksheet is part of an interim step in the BLM's internal analysis process and does not constitute an appealable decision.)

A. **BLM Office:** Palm Springs- South Coast Field Office **Lease/Serial/Case File No.** _____

Proposed Action Title/Type: Mountain Fire BAER ES Plan

Location of Proposed Action: West Fork Palm Canyon in Township 5 South, Range 4 East.

Description of the Proposed Action: Specification 4 of the Mountain Fire ES Plan- Invasive Species Detection and Control. Assess known locations within the burned area and or adjacent to the West Palm Canyon within 10 weeks after fire containment to determine if noxious weeds will disperse seed onto the burned/disturbed sites. After vegetation green-up in spring of 2014 assess known noxious weeds/non-native invasive plant species. Two control methods are being proposed following an integrated pest management approach. On BLM lands manual removal and/or chemical treatment will be conducted where feasible. Coordination with UC cooperative extension and/or the local county agricultural extension agent should be conducted to determine recommended herbicide use rates, suitable herbicides to use for specific weed species, and timing of application to ensure effective control. Tamarix cannot be effectively controlled using manual techniques so a cut and treat method will be employed, where stems are cut near ground level and herbicide is immediately applied to the cut area. This prevents impacts to other species.

Specification 6- Spring Protection: The purpose of this treatment is to prevent the extirpation of Peninsular Bighorn Sheep, a federally endangered species, from the San Jacinto Recovery Unit by ensuring the presence of free standing water. This is a critical resource for this species in the extremely arid environment. Even though much of the pre-fire hydrological regime will recover after 3 to 5 years, any sediment loads in springs/pools would have significant impact to free standing water sources. The proposed emergency stabilization measure would help mitigate those impacts. This treatment would improve clean surface spring water by manually removing sediment from known watering springs.

Applicant (if any): _____

B. Conformance with the Land Use Plan (LUP) and Consistency with Related Subordinate Implementation Plans

LUP Name* Palm Springs-South Coast Field Office South Coast Resource Management Plan

Date Approved: 2011

LUP Name* California Desert Conservation Area (CDCA) Management Plan (1980), as amended

Date Approved

Other document** Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides

Date Approved 8/14/08

Other document** Bureau of Land Management California Desert District Field Office Fire Management Plan

Date Approved 2004

*List applicable LUPs (e.g., Resource Management Plans or applicable amendments).

**List applicable activity, project, management, water quality restoration, or program plans.

The proposed action is in conformance with the applicable LUPs because it is specifically provided for in the following LUP decisions:

Yes, the CDCA Management Plan specifically states the Recovery Plan for the Peninsular Ranges Bighorn Sheep, which includes the following recommendations directly related to the proposed treatments: removal of exotic vegetation and prevent further invasion by exotic plants, especially tamarisk (p.77) and maintenance of existing water sources for the bighorn sheep on public lands (p.79).

The proposed action is in conformance with the LUP, even though it is not specifically provided for, because it is clearly consistent with the following LUP decisions (objectives, terms, and conditions) and, if applicable, implementation plan decisions:

The proposed actions are in conformance with, is consistent with, and is specifically provided for in the CDCA Management Plan objectives for the recovery of the Bighorn sheep.

Identify the applicable NEPA document(s) and other related documents that cover the proposed action.

List by name and date all applicable NEPA documents that cover the proposed action.
Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides Environmental Assessment CA-660-06-14. Record of Decision for the Environmental Impact Statement for the CDCA Management Plan Amendment.

List by name and date other documentation relevant to the proposed action (e.g., source drinking water assessments, biological assessment, biological opinion, watershed assessment, allotment evaluation, rangeland health standard's assessment and determinations, and monitoring the report).

D. NEPA Adequacy Criteria

1. Is the current proposed action substantially the same action (or is a part of that action) as previously analyzed?

Documentation of answer and explanation:

Yes, Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides Environmental Assessment CA-660-06-14 in the same area as the proposed treatments and the California Desert Conservation Area (CDCA) Management Plan (1980), as amended covers the water sources for the Peninsular Bighorn Sheep.

2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the current proposed action, given current environmental concerns, interests, resource values, and circumstances?

Documentation of answer and explanation:

Yes, the alternatives analyzed in the Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides Environmental Assessment CA-660-06-14 is appropriate. Additionally, it is recommended that Coordination with UC cooperative extension and/or the local county agricultural extension agent should be conducted to determine recommended herbicide use rates, suitable herbicides to use for specific weed species, and timing of application to ensure effective control. A range of alternatives was considered in the Record of Decision for the California Desert Conservation Area (CDCA) Management Plan Amendment for the Coachella Valley.

3. Is the existing analysis adequate and are the conclusions adequate in light of any new information or circumstances (including, for example, riparian proper functioning condition [PFC] reports; rangeland health standards assessments; Unified Watershed Assessment categorizations; inventory and monitoring data; most recent Fish and Wildlife Service lists of threatened, endangered, proposed, and candidate species; most recent BLM lists of sensitive species)? Can you reasonably conclude that all new information and all new circumstances are insignificant with regard to analysis of the proposed action?

Documentation of answer and explanation:

Yes. A species list was obtained from the U.S. Fish and Wildlife Service on July 29, 2013. The treatment methods were selected based on site visits by an interdisciplinary team that took into account a variety of resource concerns including, but not limited to, pre-burn vegetative

conditions, intensity and severity of burn, potential for erosion, past experience with ES treatments under similar conditions, and potential for the establishment and spread of noxious weeds. During field and aerial reconnaissance efforts by tribal rangers and BAER resource specialists, sedimentation was observed in important bighorn water sources.

4. Do the methodology and analytical approach used in the existing NEPA document(s) continue to be appropriate for the current proposed action?

Documentation of answer and explanation:

Yes. This treatment is necessary to prevent the establishment and to control the spread of existing noxious weeds and non-native invasive species into susceptible burned areas. Early Detection and Rapid Response will be used to prevent new noxious weed infestations from becoming established and to ensure the natural recovery of the native perennial grasses, forbs and shrubs. This treatment will also ensure the ecological indicators (Soil Stability, Hydrologic Function, and Biotic Integrity) are functioning properly during the natural recovery period. Chemical treatment, as a part of an IPM Program addressing new and existing noxious weed infestations, will help reduce the likelihood of non-native invasive species spreading to disturbed areas as well as enhancing the re-establishment of high quality wildlife habitat and diverse native plant communities within the burn.

Spring Protection is consistent with the recommendations provided for, and appropriate for protection of, the Peninsular Bighorn Sheep as written in the CDCA Management Plan and Record of Decision.

5. Are the direct and indirect impacts of the current proposed action substantially unchanged from those identified in the existing NEPA document(s)? Does the existing NEPA document sufficiently analyze site-specific impacts related to the current proposed action?

Documentation of answer and explanation:

Yes. The impacts are substantially unchanged and the types of impacts relating to the proposed ES Plan were sufficiently analyzed. There are no unique site specific impacts resulting from the implementation of the ES plan or the individual rehabilitation treatments. The Mountain ESR Plan also provides a rationale and discussion about treatments related to each resource. This discussion is consistent with the NEPA documents and therefore considered unchanged and sufficiently analyzed for site impacts.

6. Can you conclude without additional analysis or information that the cumulative impacts that would result from implementation of the current proposed action are substantially unchanged from those analyzed in the existing NEPA document(s)?

Documentation of answer and explanation:

Yes. The weed treatments proposed are the same as in the Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides Environmental Assessment CA-660-06-14. No new or different treatments than what is in the current EA are

proposed.

The Mountain ES Plan analyzed treatments that would protect habitat and water sources for the Peninsular Bighorn Sheep.

7. Are the public involvement and interagency review associated with existing NEPA document(s) adequately for the current proposed action?

Documentation of answer and explanation:

Yes. The public involvement and interagency review of the existing NEPA document is adequate for the current proposed action. The scoping and public comment periods for the Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides Environmental Assessment CA-660-06-14 provided for input from the public and other agencies.

The CDCA Management Plan provided for extensive agency and public participation, and is documented in the CDCA Management Plan Record of Decision. The public involvement was adequate and provided information that is similar to actions proposed within this plan.

E. Interdisciplinary Analysis: Identify those team members conducting or participating in the preparation of this worksheet.

<u>Name</u>	<u>Title</u>	<u>Resource Represented</u>
Maja Pepion	Team Environmental Compliance	NEPA
James Gannon	Supervisory Forestry Technician	District
TJ Clifford	Team Leader/Outdoor Recreation Planner	BLM Boise
Kenneth Griggs	Wildlife and Vegetation	FWS Humboldt Bay

F. Mitigation Measures: List any applicable mitigation measures that were identified, analyzed, and approved in relevant LUPs and existing NEPA document(s). List the specific mitigation measures or identify an attachment that includes those specific mitigation measures. Document that these applicable mitigation measures must be incorporated and implemented.

No applicable mitigation measures were identified and analyzed in the Programmatic Eradication of Tamarisk and Other Exotic Weeds using Glyphosate and Imazapyr Herbicides Environmental Assessment CA-660-06-14. No applicable mitigation measures were identified in the CDCA Management Plan.

REVIEW

Reviewed for NEPA Adequacy:

Planning and Environmental Coordinator

Date

CONCLUSION

Based on the review documented above, I conclude that this proposal conforms to the applicable land use plan and that the existing NEPA documentation fully covers the proposed action and constitute BLM's compliance with the requirements of NEPA.

Note: If one or more of the criteria are not met, a conclusion of conformance and/or NEPA adequacy cannot be made and this box cannot be checked. The signed CONCLUSION at the end of this worksheet is part of an interim step in the BLM's internal analysis process and does not constitute an appealable decision.

Signature of the Responsible Official

Date

Guidelines for Using the DNA Worksheet and Evaluating the NEPA Adequacy Criteria

These guidelines supplement the policies contained in the Instruction Memorandum entitled Documentation of Land Use Plan Conformance and National Environmental Policy Act (NEPA) Adequacy. During preparation of the worksheet, if you determine that one or more of the criteria are not met, you do not need to complete the worksheet. If one or more of these criteria are not met, you may reject the proposal, modify the proposal or complete appropriate NEPA compliance (EA, EIS, Supplemental EIS, or CX if applicable) and plan amendments before proceeding with the proposed action.

Criterion 1. Is the current proposed action substantially the same action (or is a part of that action) as previously analyzed? Explain whether and how the existing documents analyzed the proposed action (include page numbers). If there are differences between the actions included in existing documents and the proposed action, explain why they are not considered to be substantial.

Criterion 2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the current proposed action, given current environmental concerns, interests, and resource values? Explain whether the alternatives to the current proposed action that were analyzed in the existing NEPA documents and associated records constitute appropriate alternatives with respect to the current proposed action, and if so, how. Identify how current issues and concerns were addressed within the range of alternatives in existing NEPA documents. If new alternatives are being raised by the public to address current issues and concerns, and you conclude they do not need to be analyzed, explain why.

Criterion 3. Is the existing analysis valid in light of any new information or circumstances? If new information or new circumstances, including the items listed below, are applicable, you need to demonstrate that they are irrelevant or insignificant as applied to the existing analysis of the proposed action. New information or circumstances could include the following:

- a. New standards or goals for managing resources. Standards and goals include, but are not limited to, BLM's land health standards and guidelines, recovery plans for listed species prepared by the Fish and Wildlife Service or National Marine Fisheries Service, requirements contained in agency habitat conservation strategies, a biological opinion, or a conference report related to Section 7 of the Endangered Species Act; Environmental Protection Agency water quality regulations for Total Maximum Daily Loads (TMDLs) (40 CFR 130); and the requirement to address disproportionate impacts on minority populations and low income communities (E.O. 12898).
- b. Changes in resource conditions within the affected area where the existing NEPA analyses were conducted, for example, changes in habitat condition and trend; changes in the legal status of listed, proposed, candidate, and BLM-designated sensitive species; water quality, including any identified impaired water bodies under Section 303 of the Clean Water Act; air quality; vegetation condition and trend; soil stability; visual quality; cultural resource condition; wildlife population trend(s); etc.
- c. Changes of resource-related plans, policies, or programs of State and local

governments, Indian tribes, or other Federal agencies, such as, State- or Environmental Protection Agency-approved water quality restoration plans.

d. Designations established in the affected area since the existing NEPA analysis and documentation was prepared. Designations include, but are not limited to, designated wilderness, wilderness study areas, National Natural Landmarks, National Conservation Areas, National Monuments, National Register properties, Areas of Critical Environmental Concern, Research Natural Areas, areas designated under the source Water Protection Program of the State or the Environmental Protection Agency, and listing of critical habitats by the Fish and Wildlife Service.

e. Other changed legal requirements, such as changes in statutes, case law, or regulations.

Criterion 4. Do the methodology and analytical approach used in the existing NEPA document(s) continue to be appropriate for the proposed action? Explain how the methodologies and analytical approach used in the existing NEPA document(s) are current and sufficient for supporting approval of the proposed action. If valid new technologies and methodologies exist (e.g., air quality modeling), explain why it continues to be reasonable to rely on the method previously used.

Criterion 5. Are the direct and indirect impacts of the current proposed action substantially unchanged from those analyzed in the existing NEPA document(s)? Does the existing NEPA document(s) analyze site-specific impacts related to the current proposed action? Review the impact analysis in the existing NEPA document(s). Explain how the direct and indirect impacts of the proposed action are analyzed in the existing NEPA documents, and would, or would not, differ from those identified in the existing NEPA document. Consider the effect new information or circumstances may have on the environmental impacts predicted in the existing NEPA document. Consider whether the documents sufficiently analyze site-specific impacts related to the current proposed action.

Criterion 6. Are the reasonably foreseeable cumulative impacts that would result from implementation of the proposed action substantially unchanged from those identified in the existing NEPA document(s)? Would the current proposed action, if implemented, change the cumulative impact analysis? Consider the impact analysis in existing NEPA document(s), the effects of relevant activities that have been implemented or projected since existing NEPA documents were completed, and the effects of the current proposed action.

Criterion 7. Is the public involvement and interagency review associated with existing NEPA document(s) adequately for the current proposed action? Explain how the nature of public involvement in previous NEPA documents remains in compliance with NEPA public involvement requirements in light of current conditions, information, issues, and controversies.

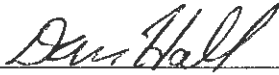
A "yes" to any of the above exceptions will require that an environmental assessment be prepared.

NEPA Action - - - - CE X EA

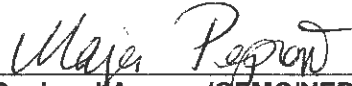
Project (con't): Mountain Fire Burned Area Emergency Response Emergency Stabilization

Maja Pepion, Environmental Compliance Coordinator

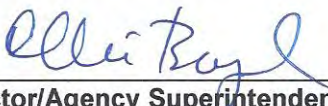
Name and Title of person preparing this checklist

Concur Item 7: 
Regional Archeologist

Date: 8/3/2013

Concur: 
Regional Agency/OFMC/NEPA Reviewer

Date: 8/3/13

Approve: 
Regional Director/Agency Superintendent/OFMC Official

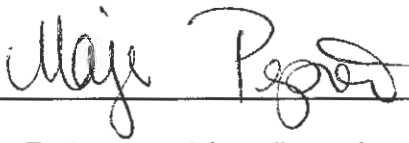
Date: 8/3/13

NOTES: Several actions are proposed in the Mountain Fire Emergency Stabilization Plan on the Agua Caliente Indian Reservation for mitigation of post-fire flooding and/or debris flow events following the fire. These actions include: culvert cleaning, floatable debris removal, installation of flood warning signs, installation of berms, storm patrol, road debris removal, and cultural site protection. These actions meet the Department of the Interior, Bureau of Indian Affairs, and Bureau of Land Management definitions as Categorical Exclusions under NEPA.

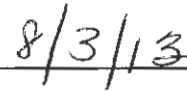
CONCLUSION

I have reviewed the proposals in the Mountain Fire ES Plan in accordance with the criteria above and have determined that the proposed actions would not involve or result in any significant environmental effect. Therefore it is excluded from further environmental (NEPA) review and documentation or tiered from existing and valid environmental documents. No emergency coordination or consultation is necessary to ensure compliance with the National Historic Preservation Act or Endangered Species Act. Emergency consultation will be initiated with the United States Army Corps and United States Environmental Protection Agency for treatments within stream channels.

Recommended:

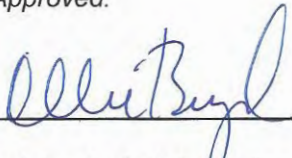


Environmental Compliance Coordinator

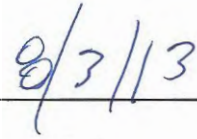


Date

Approved:



Superintendent, Palm Springs Agency, BIA



Date

BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

APPENDIX III PHOTO DOCUMENTATION

- CULTURAL RESOURCES
- WILDLIFE / VEGETATION RESOURCE
- WATERSHED / SOIL / GEOLOGY RESOURCE



Ash Flow_Palm Canyon

Cultural Issues / Concerns



Exposed Petroglyph



Historic Wine Oval Front



Low Burn Severity on Site within Fire



Rock-lined Terrace Feature



Stone Habitation Feature



Treatment Option Discussion at Sweat Lodge Feature

**Vegetation
Wildlife
Issues / Concerns**



California Fan Palm Oasis Habitat outside of fire



California Tree Frog in Fire Impacted Stream



Fire Impacted Riparian Area



Hawk in Burned Area



Mountain Lion Track in W. Palm Canyon



Sediment and Ash Deposition in PBS Watering Site

Watershed Issues / Concerns



Andreas Canyon (mouth) looking up stream



Murray Canyon Headwaters



Palm Canyon_Low Spot Near Split Rock



West Fork Canyon Headwaters



West Fork Palm Riparian



Tahquitz Falls

BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

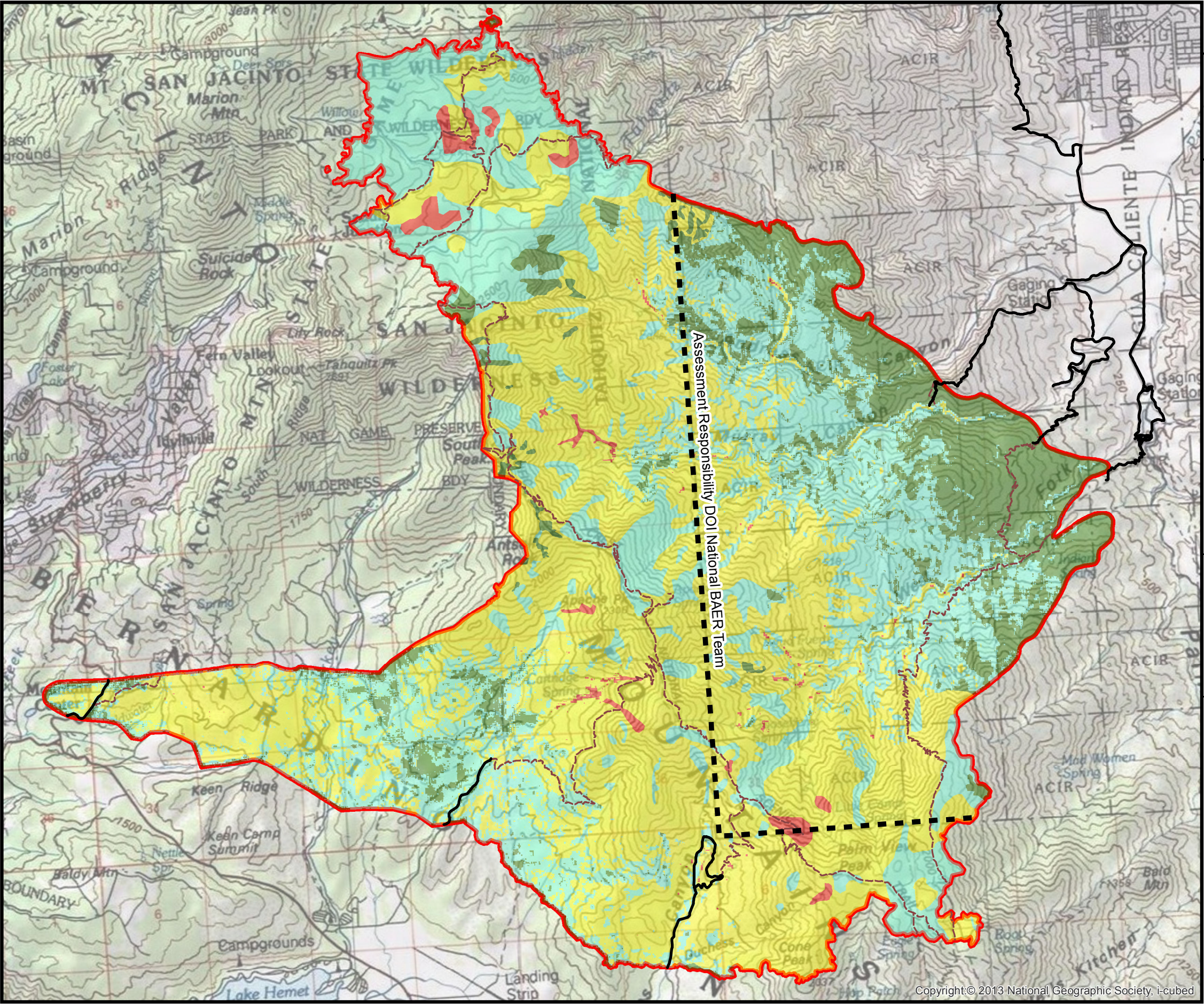
APPENDIX IV MAPS

- #1 Soil Burn Severity_ BARC**
- #2 Ownership**
- #3 Treatments**



Andreas Canyon

Soil Burn Severity Map

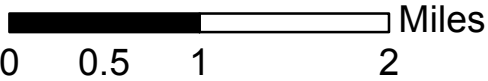


MOUNTAIN FIRE

Burned Area Emergency Response



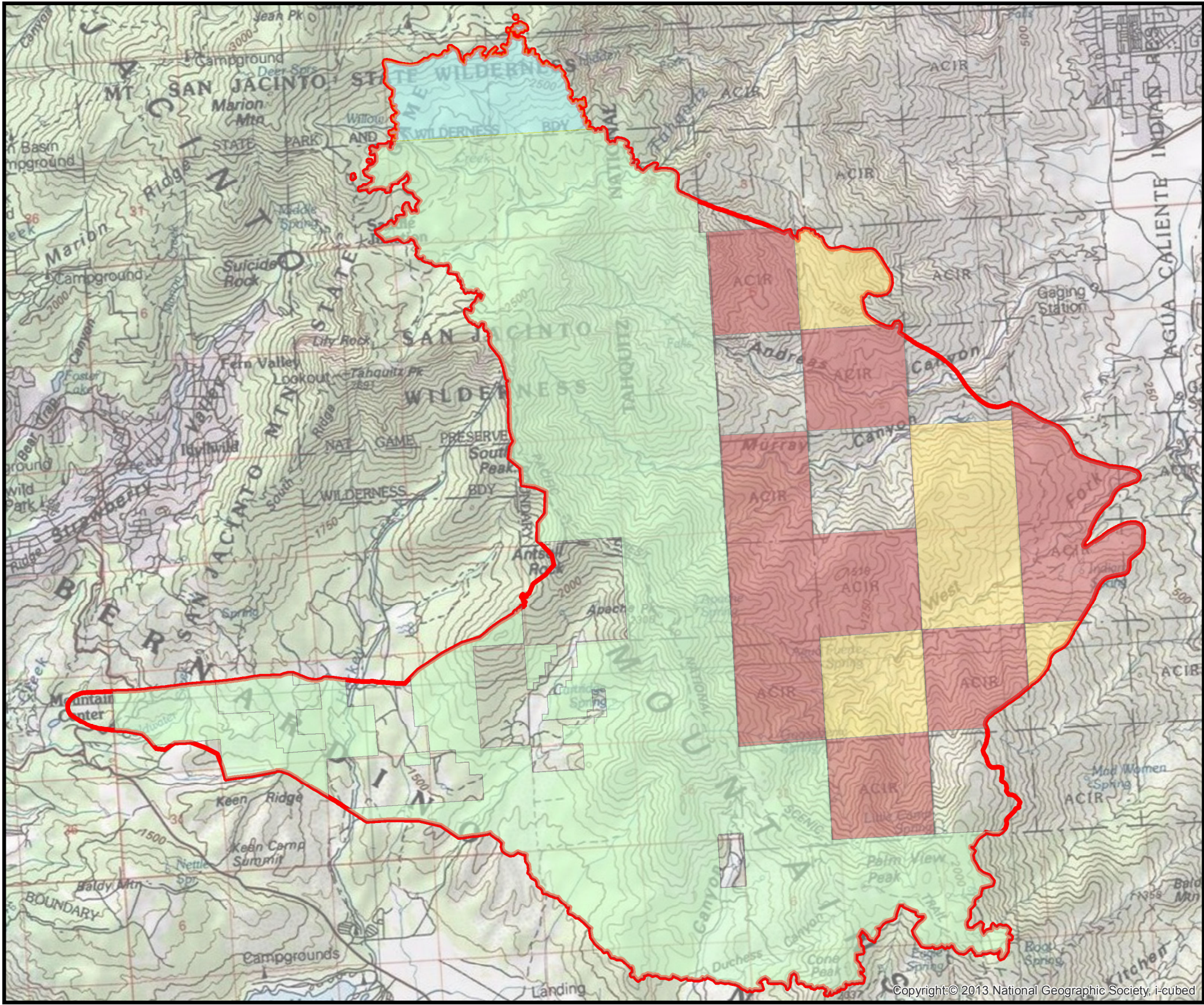
- Rds_sigt
- Soil Burn Severity**
 - High (366 ac)
 - Moderate (13,593 ac)
 - Low (9,877 ac)
 - Unburned/Very Low (3,717 ac)
- Fire Perimeter (27.531)
- Major Roads
- Trails



The data represented in this map were gathered from multiple sources, which may vary in accuracy, scale and date. This is for display purposes only.



Ownership Map

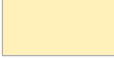
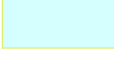


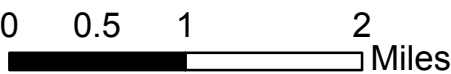
MOUNTAIN FIRE

Burned Area Emergency Response



Ownership

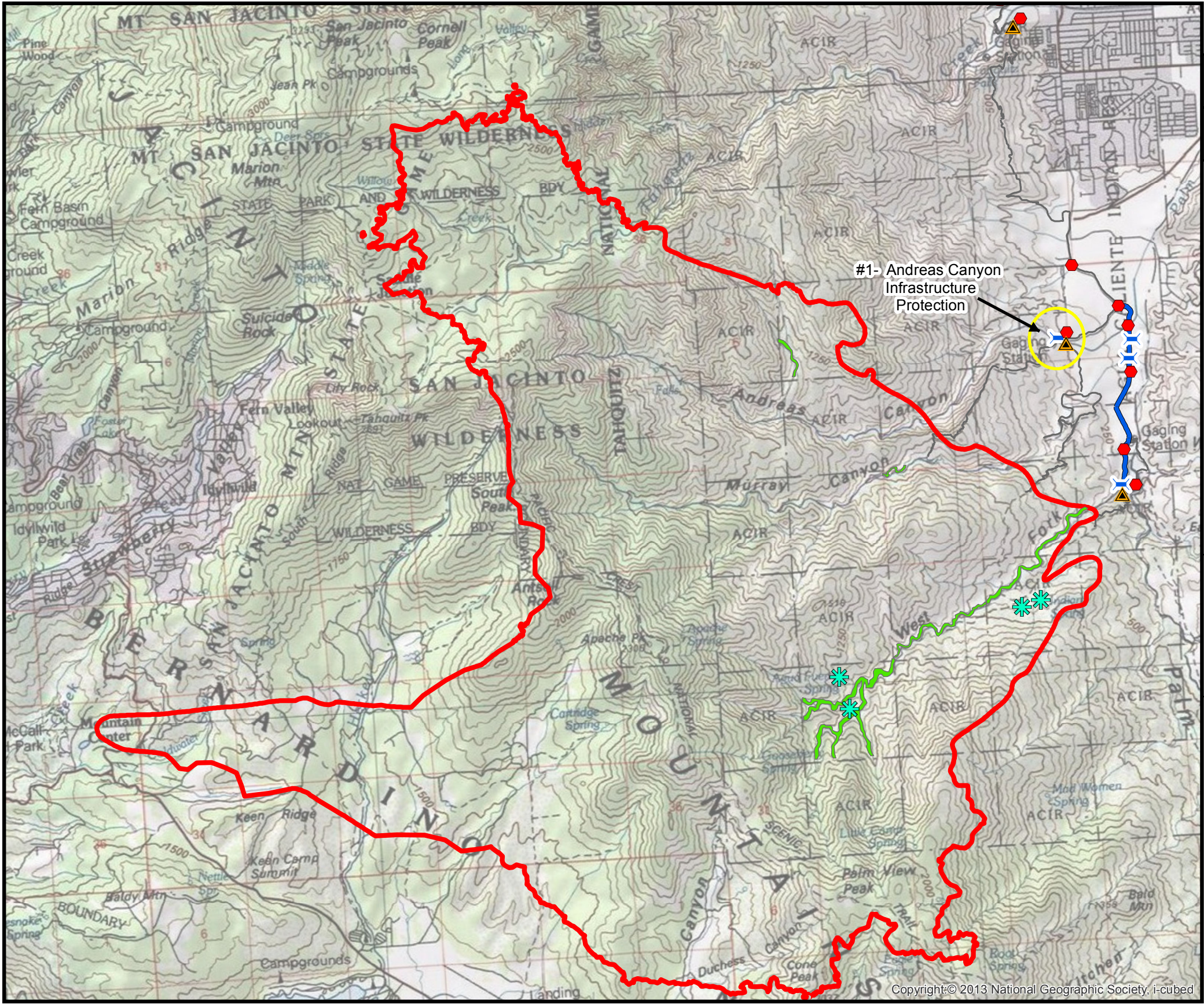
-  Bureau of Indian Affairs (5,783 ac)
-  Bureau of Land Management (2,443 ac)
-  State Parks (892 ac)
-  Forest Service (14,447 ac)
-  Fire Perimeter (27,531 ac)



The data represented in this map were gathered from multiple sources, which may vary in accuracy, scale and date. This is for display purposes only.



Treatments Map



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MOUNTAIN FIRE

Burned Area Emergency Response



#2 - Road Debris Removal

#3 - Flood Warning

▲ Kiosk (3)

● Warning Signs (9)

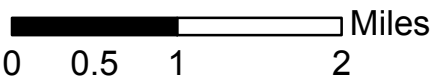
#4 - Invasive Weed Detection

■ BLM- 125 ac, ACBCI-125ac

#6 - Spring Protection

#7 - Culverts and Ditches (4)

□ Fire Perimeter 27,531 ac



The data represented in this map were gathered from multiple sources, which may vary in accuracy, scale and date. This is for display purposes only.



Treatments Map

BURNED AREA EMERGENCY RESPONSE PLAN

2013 MOUNTAIN FIRE

APPENDIX V SUPPORTING DOCUMENTATION

- 1. AGWA Report**
- 2. AGWA Model Results**

APPENDIX V (electronic) SUPPORTING DOCUMENTATION

- | | |
|--|---------------------------------|
| 1. Delegation of Authority | 10. Land Exchange Map |
| 2. BAER Delegation to Team Leader | 11. Cost_Risk_Wildlife |
| 3. BAER JHA | 12. Cost_Risk_Vegetation |
| 4. BAER_Roster | 13. Cost_Risk_Cultural |
| 5. Organizational Chart | |
| 6. Issues_Concerns | |
| 7. T & E Species List | |
| 8. Closeout Attendance | |
| 9. Cost_Risk_Watershed | |



West Fork Canyon Headwaters

SUPPORTING DOCUMENTATION

Automated Geospatial Watershed Assessment Results

The DOI Burned Area Emergency Response Team (BAER) was asked to model pre- and post-fire watershed response using the Automated Geospatial Watershed Assessment (AGWA) tool. AGWA is an add-in that runs in the ESRI ArcMap software. AGWA uses a Digital Elevation Model (DEM) to delineate watersheds from selected outlet points and then intersects with soil, land-use/cover, and precipitation (uniform or distributed) to derive the requisite model input parameters (Goodrich et al, 2005). AGWA passes the parameters to the Kinematic Runoff and Erosion Model (KINEROS), executes the model, and provides an interface for viewing model results. AGWA is designed to provide qualitative estimates of runoff and erosion relative to landscape change. It cannot provide reliable quantitative estimates of runoff and erosion without careful calibration. It is also subject to the assumptions and limitations of its component models (Goodrich et al, 2005; Miller et al., 2007; Goodrich et al., 2012).

The NRCS US General Soils Map (STATSGO) and the National Land Cover Database 2006 (NLCD) were used as inputs to the model. AGWA uses a burn severity map derived from Burned Area Reflectance Classification (BARC) data and field observations to change the NLCD data from pre-fire to post-fire conditions. AGWA uses the soils data and pre-fire NLCD dataset to model the pre-fire condition, and soils data and derived post-fire dataset to model the post-fire condition. Table 1 lists data inputs used in the model. Model inputs used in AGWA are listed in Table 2.

Typical monsoonal (shorter, more intense) and winter (longer, less intense) events used in the model were derived from NOAA Atlas 14 for the Southwest region. Within the burned area, the highest intensity monsoonal and winter type events were selected. The monsoon-type storm, used is a 10-year, 1-hour, 1.26 inch event. The winter-type storm used is a 5-year, 6-hour, 2.11 inch event.

Table 1. Data inputs.

Input Data	Source
Soils	US General Soils Map (STATSGO), version 2.3.2.
Vegetation	National Land Cover Database (NLCD), 2006.
Topography	10 meter DEM from National Map Viewer
Rainfall	NOAA Atlas 14

Table 2. Model input parameters.

Flow Length	Geometric Abstraction
Hydraulic Geometry	Eastern Arizona/ New Mexico sites
Channel Type	Natural
Channel Hydraulic Conductivity	0 mm/hr
Channel Roughness	0.035 Manning's n

KINEROS is driven by storms distributed uniformly (uniform rainfall depth) over the entire modeled watershed. Assumption of uniform rainfall depth provides assessment of relative risk within the watershed, however an actual storm event likely won't cover the entire watershed. Since the entire watershed is used, results may include unburned areas of the drainage. The unburned areas have the same pre- and post-fire outputs, therefore effectively attenuate or dilute the magnitude of the percent change at the outlet. For that reason, watersheds that are delineated to minimize watershed area outside of the burn perimeter provide a better approximation of change in watershed response due to the fire because of reduced attenuation effects caused by the equal contribution of pre- and post-fire outputs from the unburned area. Smaller modeled watersheds, generated from outlet points selected farther upstream, can also provide a more detailed approximation of watershed response due to averaging of model inputs over a smaller area.

Values produced by KINEROS represent qualitative erosion predictions from modeled storms and not quantitative estimates due to assumptions made in derivation of model parameters and because actual storm events cannot be predicted. However, comparisons between output values that are based on the same set of assumptions are useful in understanding expected differences between pre- and post-burn conditions given a modeled storm event. Simulations created from the pre-fire condition are differenced from simulations created from the post-fire condition to show percent difference in model outputs using the formula

$$\frac{\text{post-fire condition} - \text{pre-fire condition}}{\text{pre-fire condition}} \times 100.$$
 The percent differences in the model results reflect differences in the areal extent of affected landscape within a given watershed.

Results and Discussion

Modeling was completed for nine watersheds associated with the Mountain Fire (Figure 1). Results for eight of the watersheds are included in Figures 2 through 37. Results for the Coldwater Creek watershed (Ignition Watershed in Figure 1) were omitted because model runs showed no runoff for any storms pre- or post-fire. Explanations for zero runoff are described in greater detail below.

The upper Tahquitz Creek (Figure 4) shows the largest modeled increase with post-fire peak flow roughly 22 times greater than pre-fire conditions with 1.26 inches of rain over a one-hour period. The model also shows sediment flows in the upper Tahquitz that are roughly 54 times

greater after the fire with the one-hour rainfall. Modeled sediment flows in Fobes Creek are approximately 58 times greater in post-fire conditions for the one-hour, monsoonal type storm (Figure 32). Hydrographs and maps of modeled watersheds are shown in Figures 2 through 37.

Modeled post-fire results that are nearly the same as pre-fire conditions may be due to sandy or similar highly permeable soils that easily absorb water. For example, Tahquitz Creek and Coldwater Creek watersheds include soil types in the STATSGO input data that are able to absorb water at a rate greater than the storm events used in the model. This can result in little to no difference in runoff after the fire. Additionally, model differences between pre- and post-fire simulations are lowered by contributions from unburned areas within the watershed. While not as important in areas with high differences, this can further contribute to negligible differences in areas with highly permeable soils.

For more information regarding the Automated Geospatial Watershed Assessment visit the website: <http://www.tucson.ars.ag.gov/agwa/>.

References

Goodrich, D.C., H.E. Canfield, I.S. Burns, D.J. Semmens, S.N. Miller, M. Hernandez, L.R. Levick, D.P. Guertin, and W.G. Kepner, 2005. Rapid post-fire hydrologic watershed assessment using the AGWA GIS-based hydrologic modeling tool. In: Proceedings, ASCE Watershed Management Conference, Williamsburg, VA, July 19-22, 2005.

Goodrich, D.C., Burns, I.S., Unkrich, C.L., Semmens, D., Guertin, D.P., Hernandez, M., Yatheendradas, S., Kennedy, J.R., Levick, L. 2012. [KINEROS2/AGWA: Model Use, Calibration, and Validation](#). Transactions of the ASABE. 55(4): 1561-1574.

Miller, S.N., Semmens, D.J., Goodrich, D.C., Hernandez, M., Miller, R.C., Kepner, W.G., Guertin, D.P. 2007. [The Automated Geospatial Watershed Assessment Tool](#). J. Environmental Modeling and Software. 22:365-377

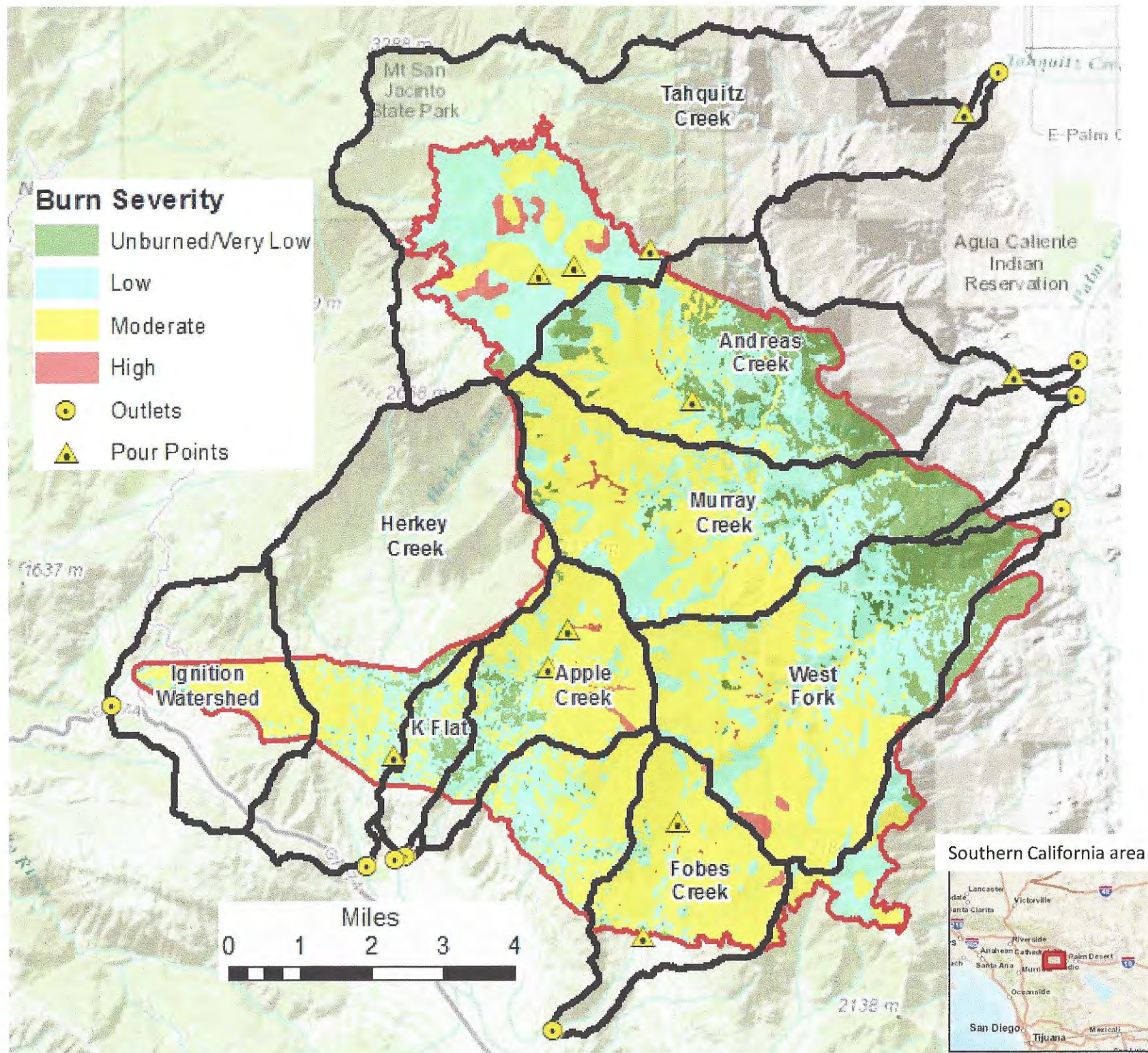
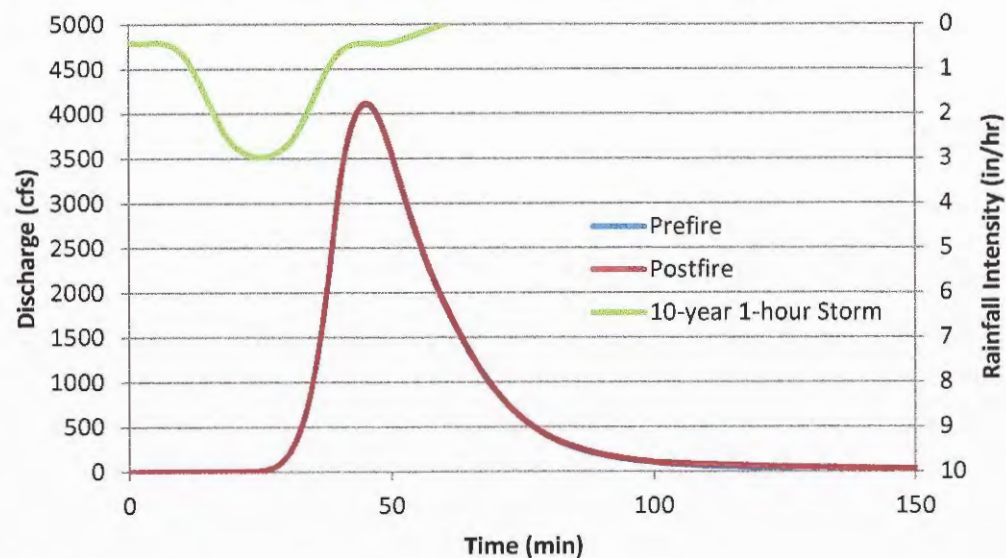


Figure 1. Watersheds (black outlines) modeled for 2013 Mountain Fire near Palm Springs, CA. Burned area perimeter shown in red.

Tahquitz Creek at USGS Stream Gage

1.26", 10 year 1 hour storm			
	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	4103.5	4115.3	0
Peak Sediment (T/s)	225.0	226.2	1
Sediment Yield (tons/ac)	34.4	34.9	2
Total Sediment (tons)	372495.2	378580.7	2

Hydrograph at Stream Gage



Sediment Flow at Stream Gage

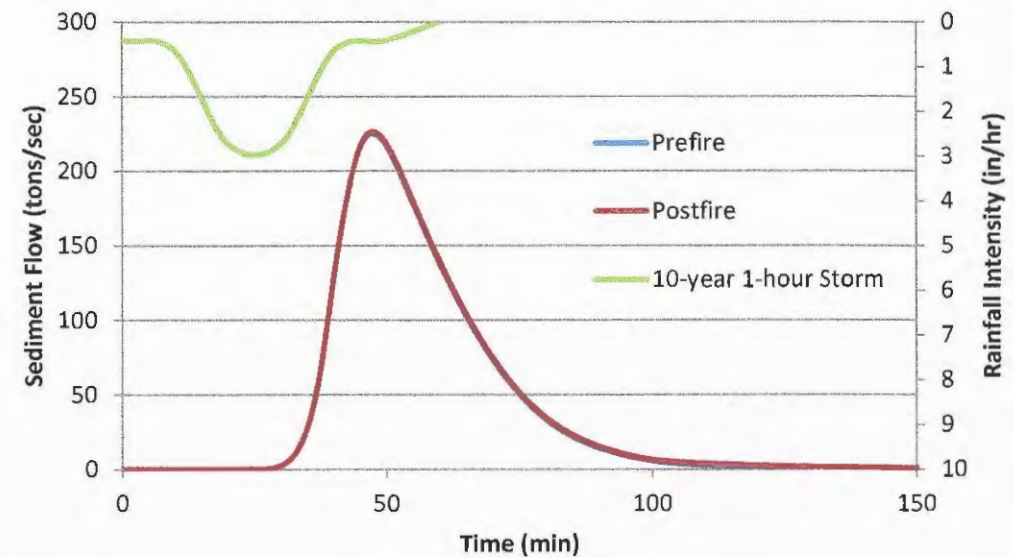
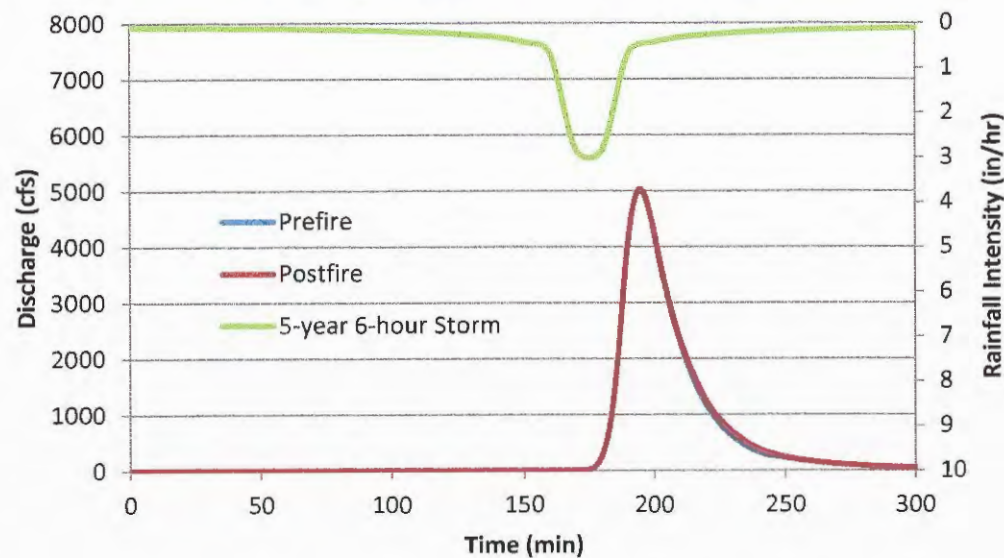


Figure 8.

Tahquitz Creek at USGS Stream Gage

2.11", 5 year 6 hour storm			
	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	5012.1	5028.9	0
Peak Sediment (T/s)	279.3	281.2	1
Sediment Yield (tons/ac)	47.6	49.8	5
Total Sediment (tons)	515670.9	539985.0	5

Hydrograph at Stream Gage



Sediment Flow at Stream Gage

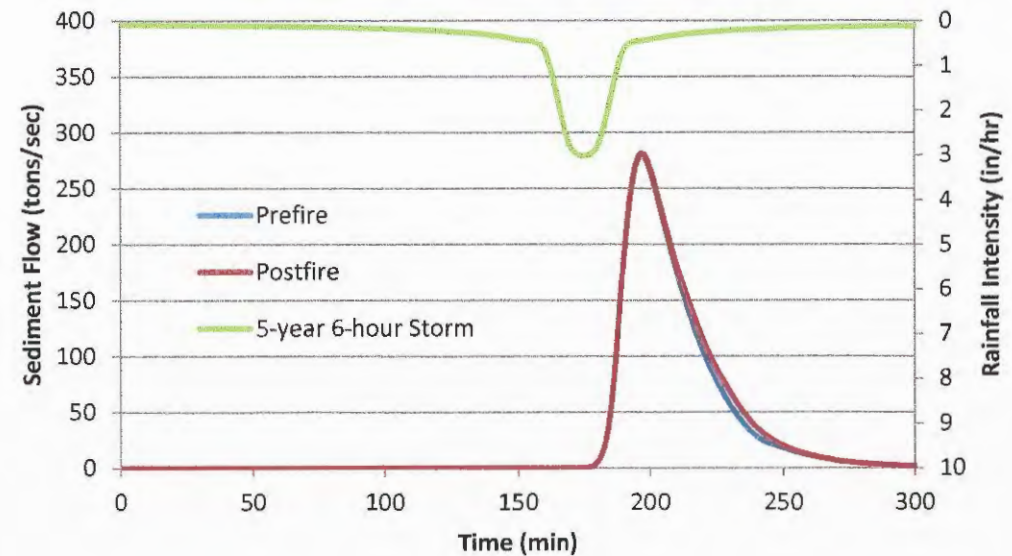
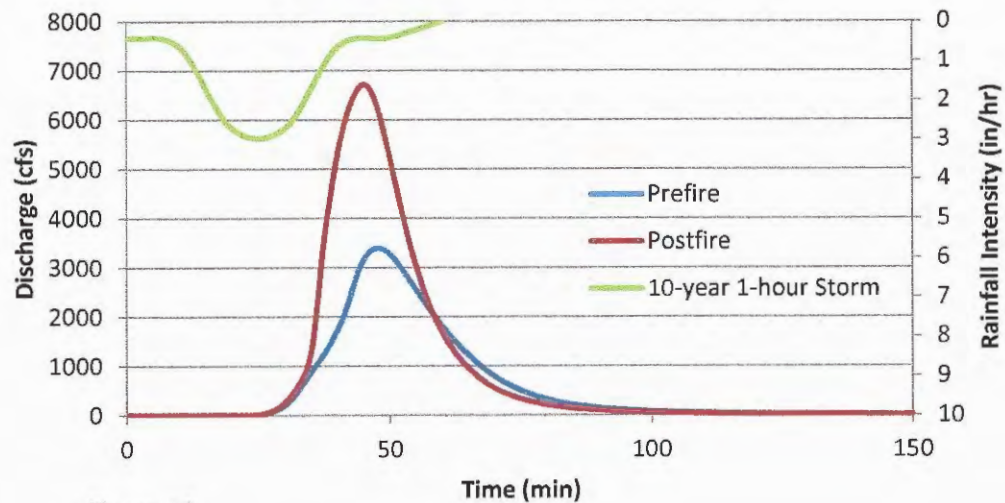


Figure 9.

West Fork at Road Culvert

1.26", 10 year 1 hour storm			
	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	3392.2	6715.7	98
Peak Sediment (T/s)	129.4	365.6	183
Sediment Yield (tons/ac)	33.8	69.8	106
Total Sediment (tons)	206795.2	426737.8	106

Hydrograph at Road Culvert



Sediment Flow at Road Culvert

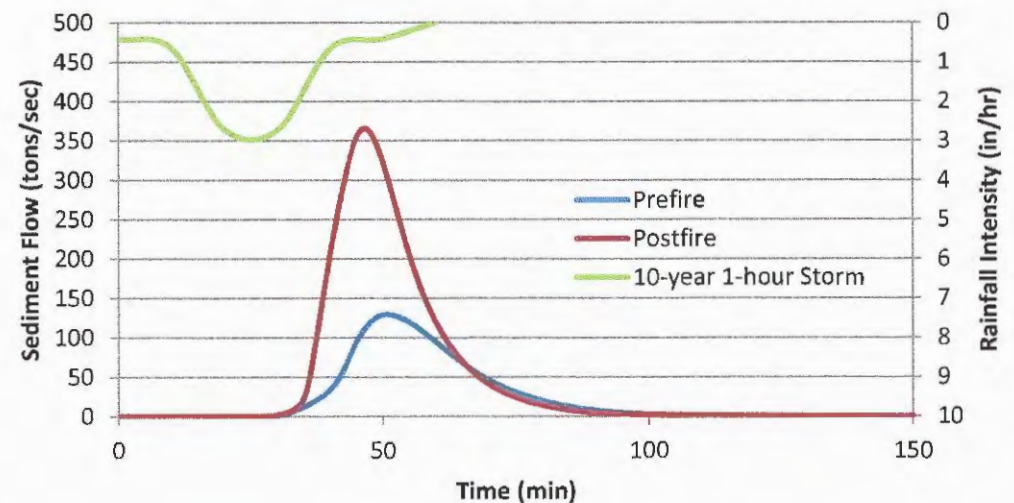
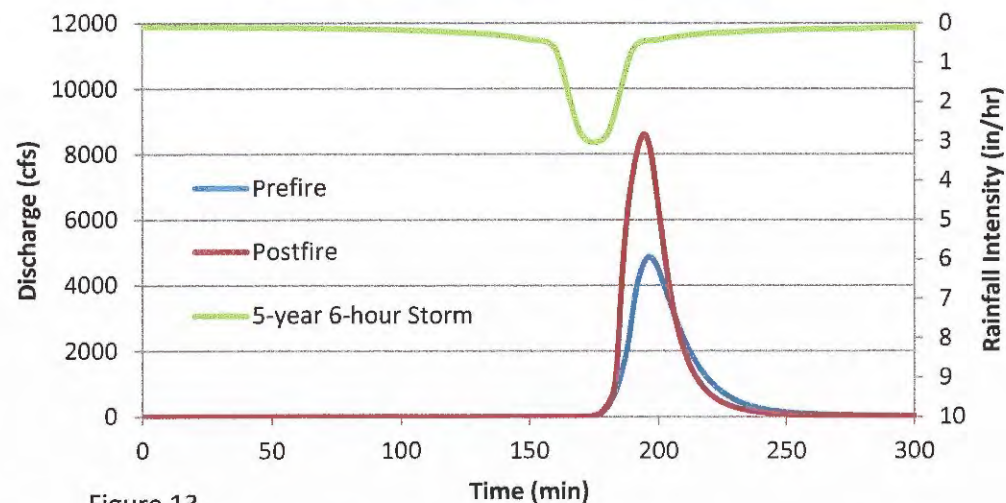


Figure 12.

West Fork at Road Culvert

2.11", 5 year 6 hour storm			
	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	4864.5	8612.5	77
Peak Sediment (T/s)	199.5	492.8	147
Sediment Yield (tons/ac)	53.8	97.0	80
Total Sediment (tons)	329247.2	593435.1	80

Hydrograph at Road Culvert



Sediment Flow at Road Culvert

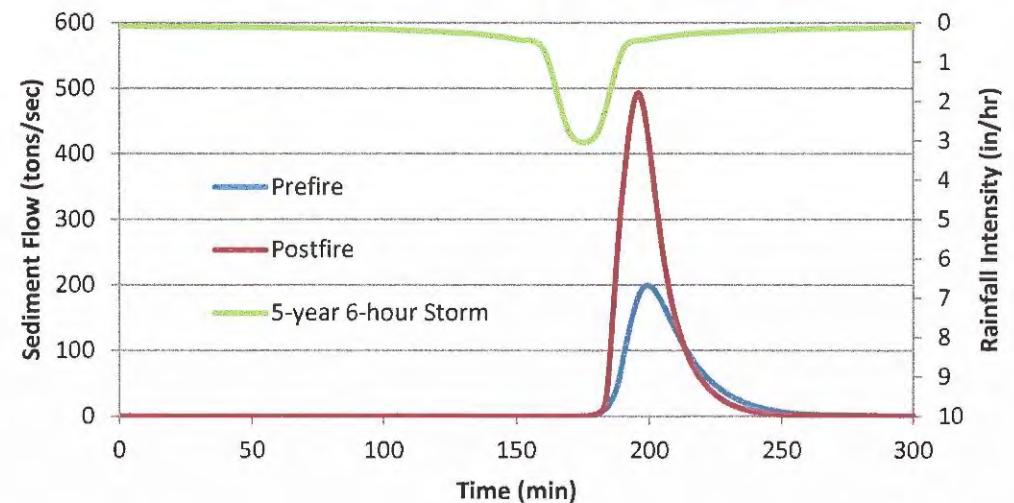
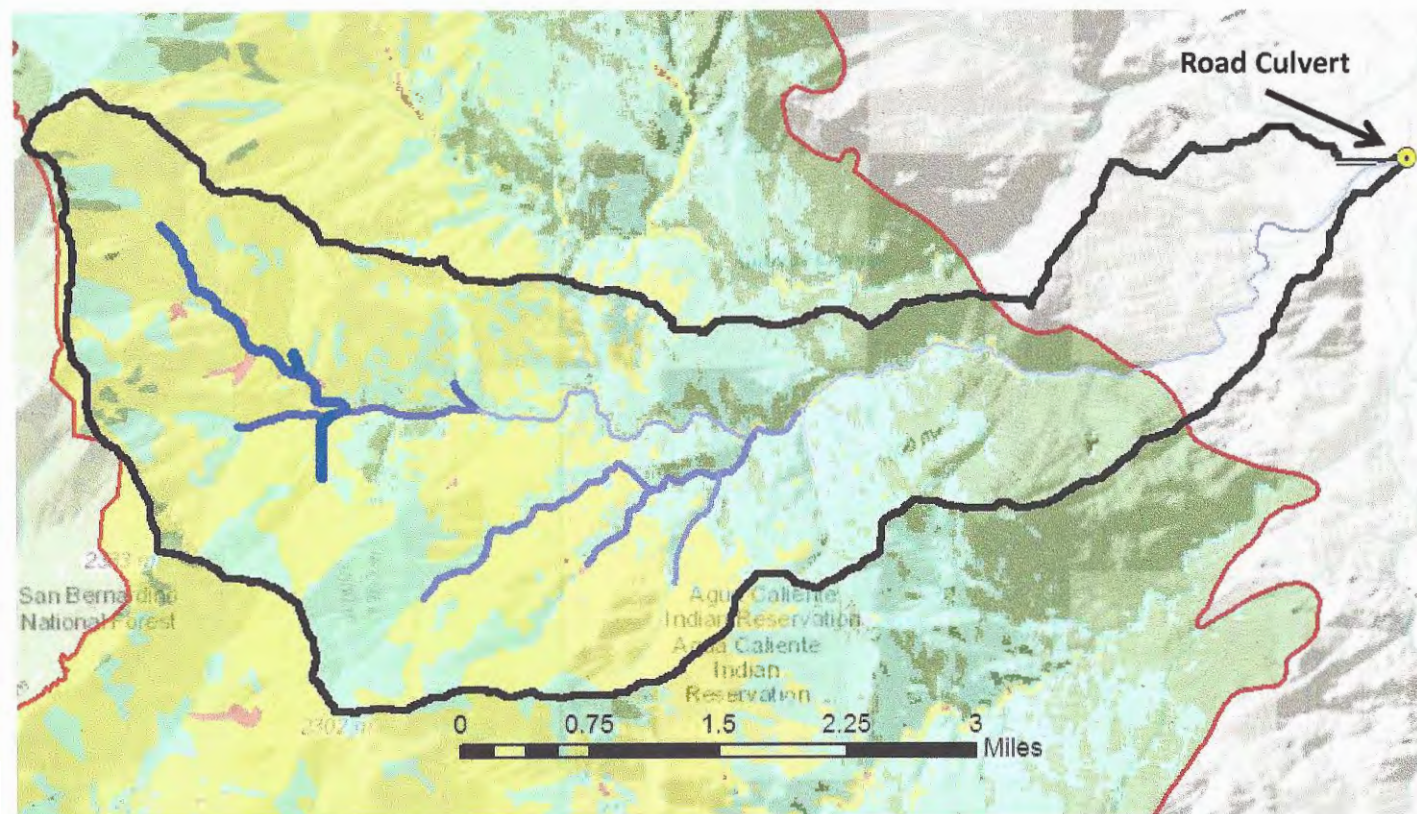


Figure 13.

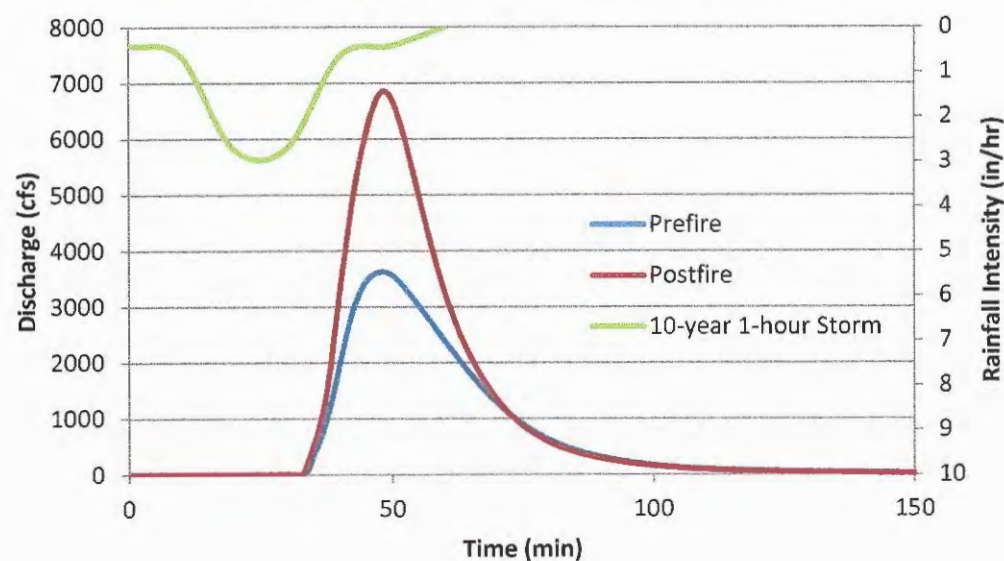


Murray Creek at Road Culvert

1.26", 10 year 1 hour storm

	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	3623.3	6865.8	89
Peak Sediment (T/s)	97.6	299.0	207
Sediment Yield (tons/ac)	24.3	57.1	135
Total Sediment (tons)	165676.4	390089.8	135

Hydrograph at Road Culvert



Sediment Flow at Road Culvert

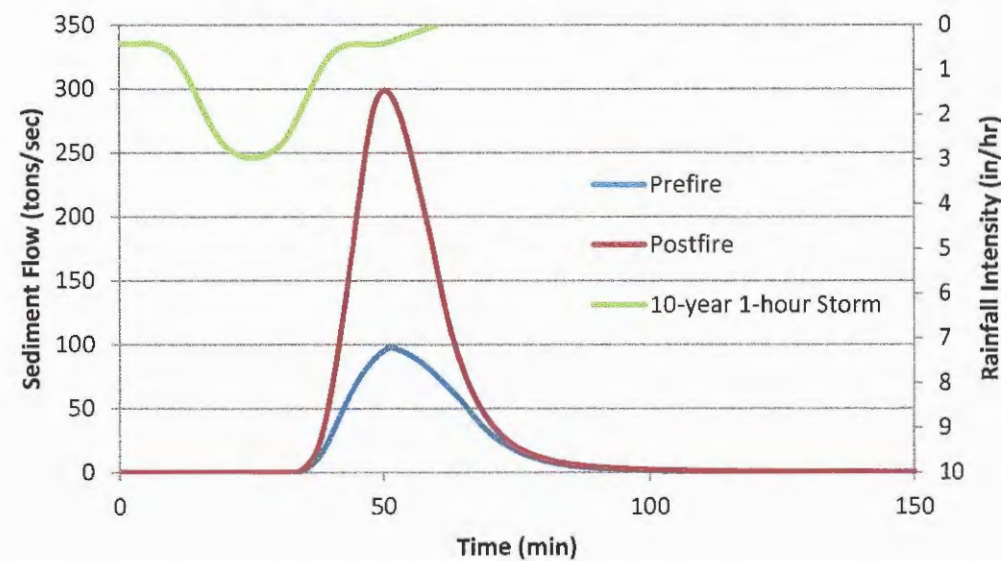
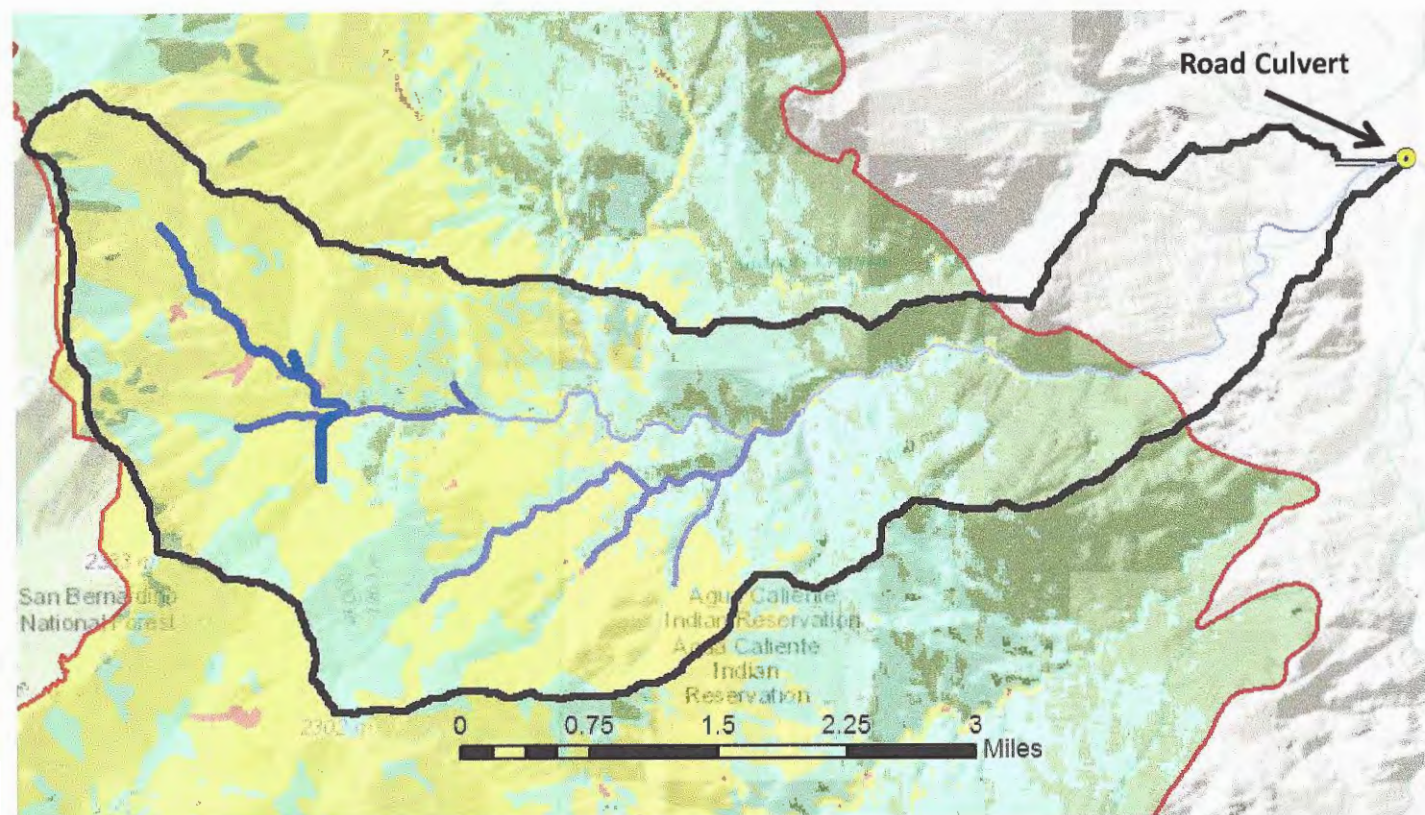


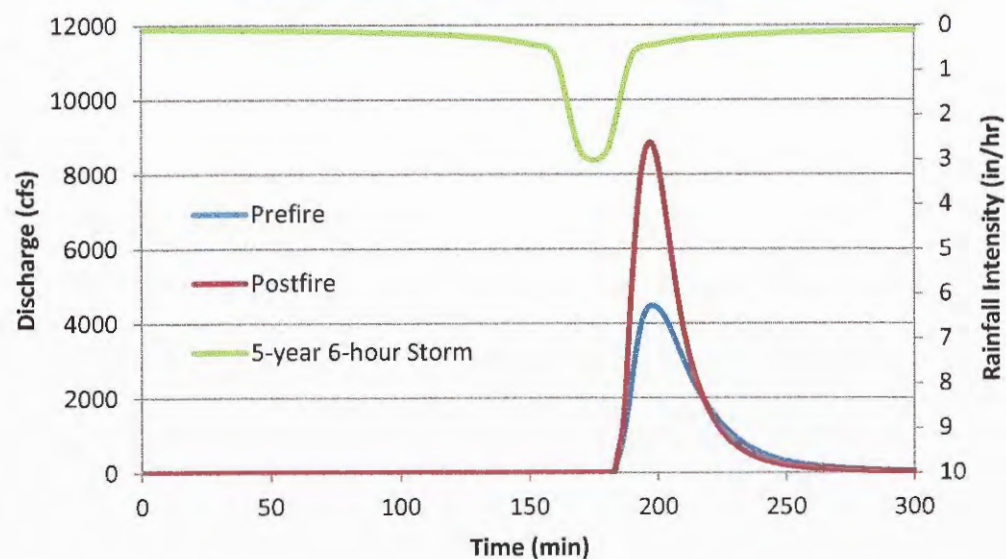
Figure 14.



Murray Creek at Road Culvert

2.11", 5 year 6 hour storm			
	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	4474.3	8854.9	98
Peak Sediment (T/s)	137.9	434.6	215
Sediment Yield (tons/ac)	36.7	85.0	132
Total Sediment (tons)	250553.6	580609.1	132

Hydrograph at Road Culvert



Sediment Flow at Road Culvert

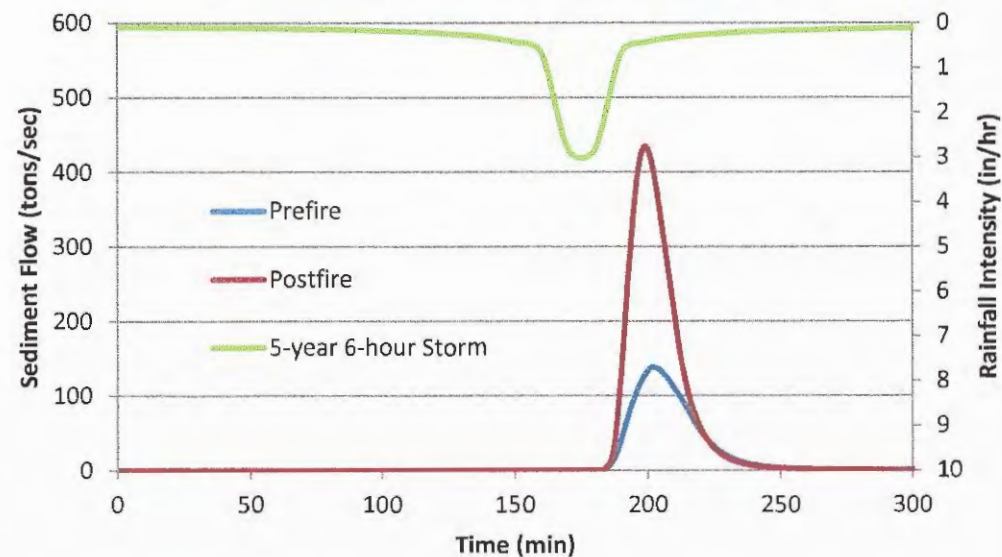
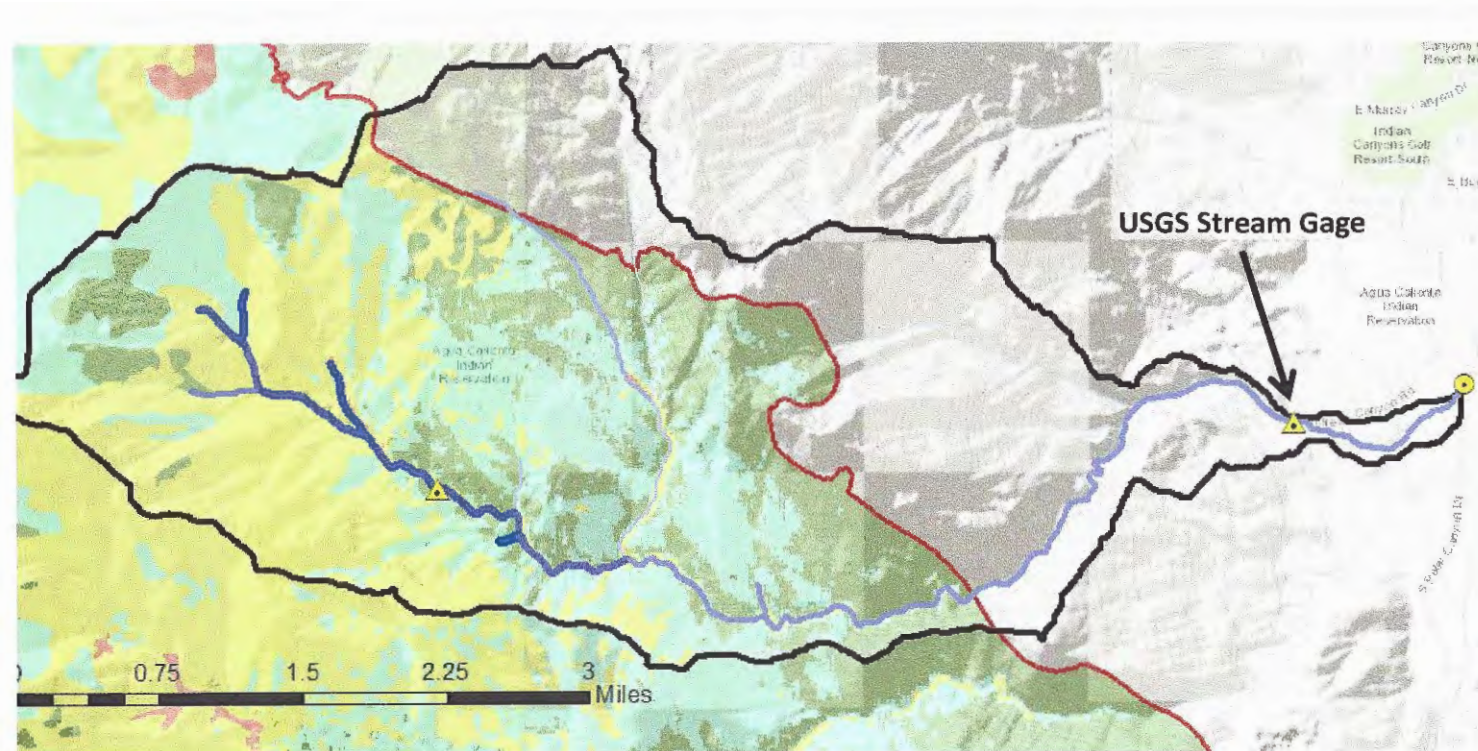


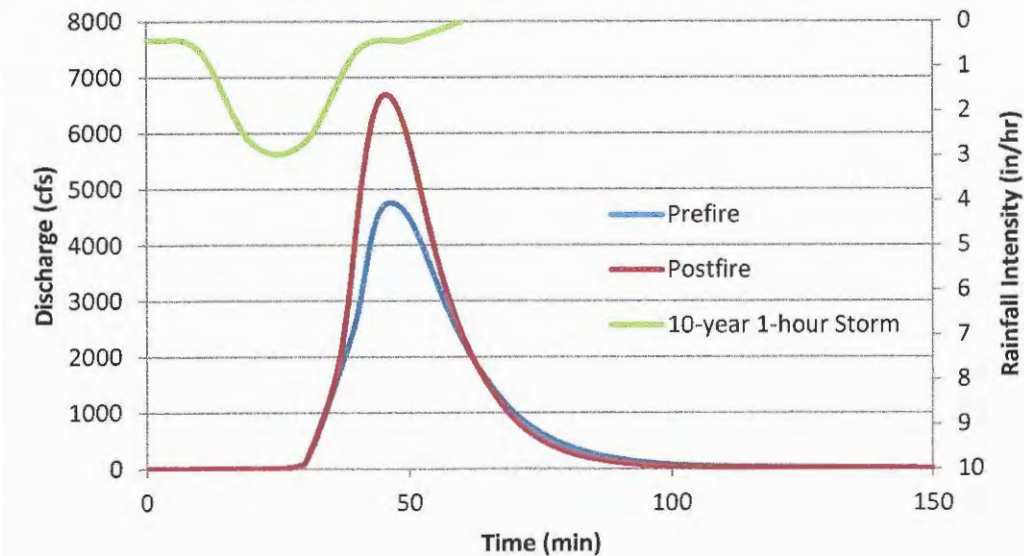
Figure 15.

Andreas Creek at USGS Stream Gage

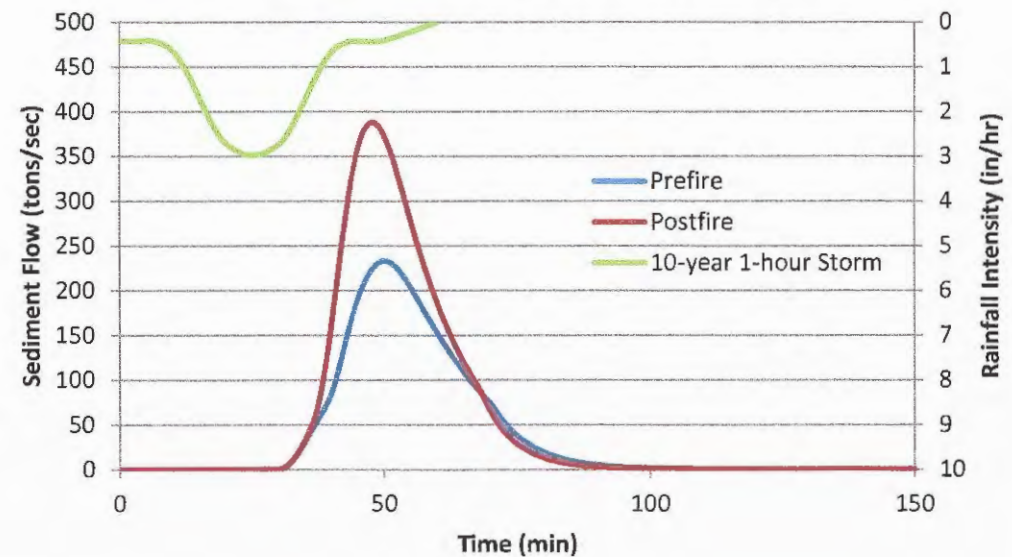


1.26", 10 year 1 hour storm			
	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	4753.1	6694.5	41
Peak Sediment (T/s)	232.8	387.9	67
Sediment Yield (tons/ac)	63.0	88.8	41
Total Sediment (tons)	381131.3	537499.1	41

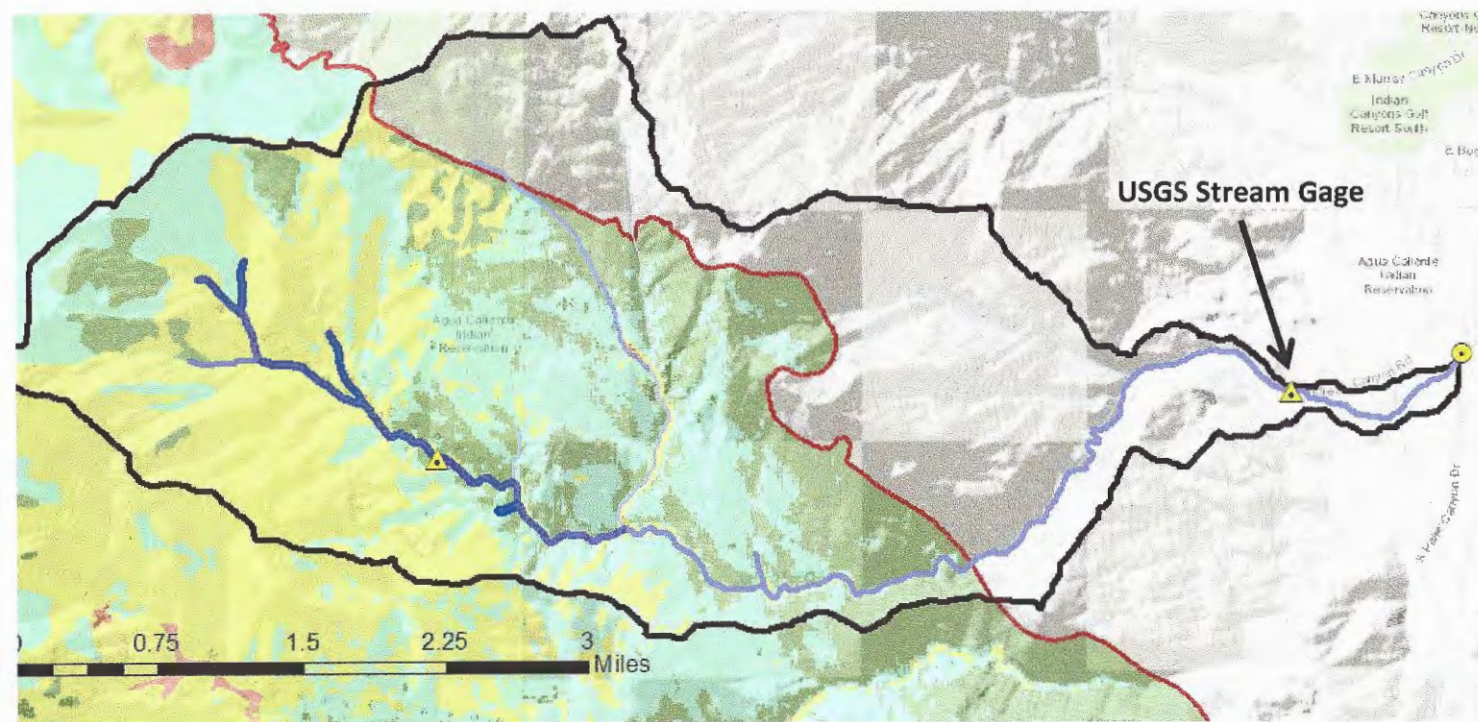
Hydrograph at Stream Gage



Sediment Flow at Stream Gage



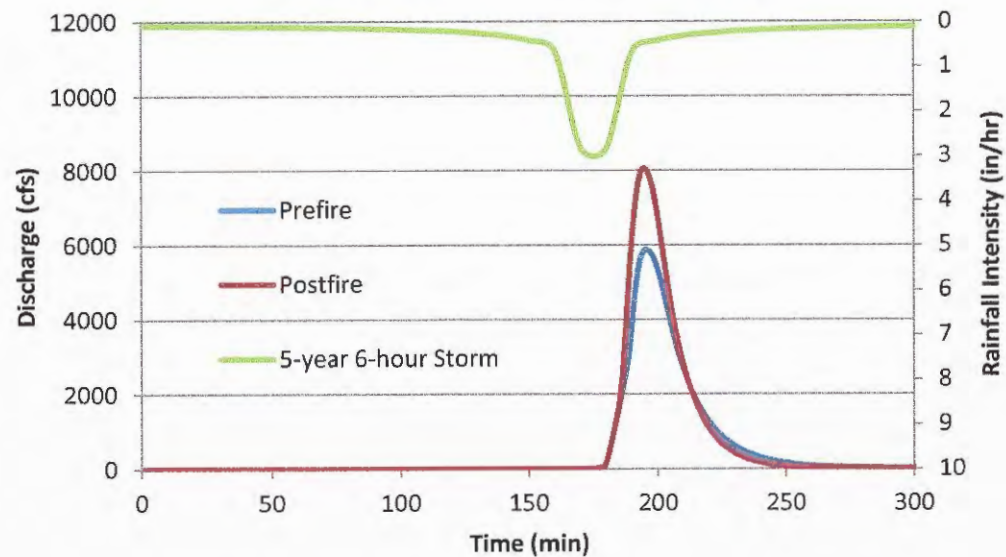
Andreas Creek at USGS Stream Gage



2.11", 5 year 6 hour storm

	Pre-fire	Post-fire	Percent Change
Peak Flow (cfs)	5870.9	8065.1	37
Peak Sediment (T/s)	290.8	473.1	63
Sediment Yield (tons/ac)	82.3	112.8	37
Total Sediment (tons)	498432.5	682822.2	37

Hydrograph at Stream Gage



Sediment Flow at Stream Gage

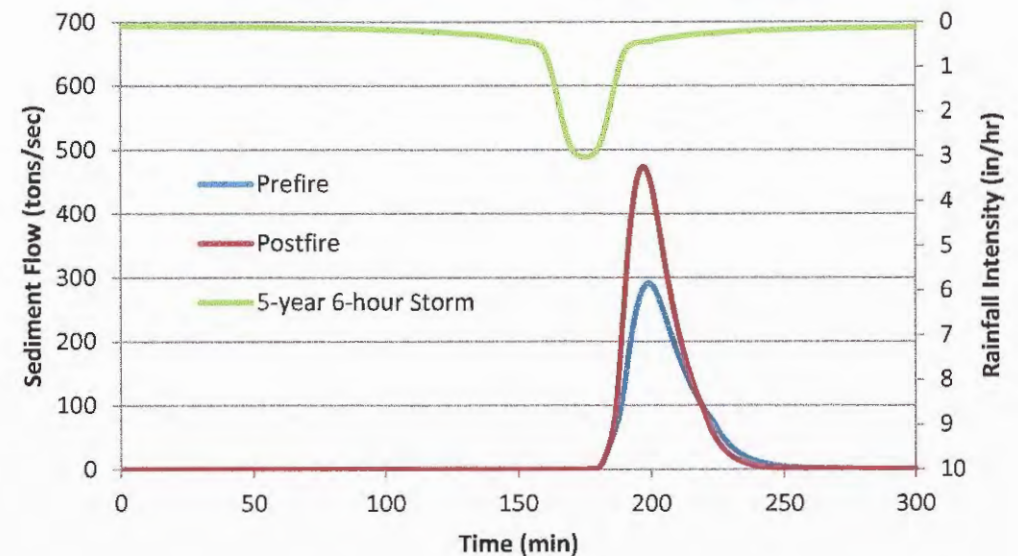


Figure 19.



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS

Palm Springs Agency
P.O. Box 2245
Palm Springs, CA 92263

IN REPLY REFER TO:
Memorandum

Date: July 25, 2013

To: TJ Clifford, Team Leader, Burned Area Emergency Response (BAER) Team

From: Ollie Beyer, Superintendent, Palm Springs Agency *Ollie Beyer*

Subject: Delegation of Authority for BAER Assessment

You are hereby delegated authority and responsibility to assess post fire effects and produce an Emergency Stabilization (ES) Plan outlining measures and standards necessary to mitigate fire damage resulting from the Mountain Fire that includes the appropriate level of environmental analysis to support the implementation of standard treatments. All BAER activities will be conducted within the framework of provisions contained in Part 620 Department of Interior Manual Chapter 3, Bureau of Indian Affairs policy and sound resource management practices.

Your primary responsibility is to organize and direct a team to establish cost effective measures to protect the resources of the Agua Caliente Band of Cahuilla Indians Reservation from further damage and initiate the process of recovery, wherever feasible alternatives exist. Please cooperate with the Palm Springs Agency, the Agua Caliente Band of Cahuilla Indians, and other agencies with similar authorities.

As the Team Leader of the BAER planning process, you are accountable to the Palm Springs Agency Superintendent and to the Pacific Regional Director. On any occasion that I am not immediately available, Claudia Salgado or Steven Matano, has full authority to represent me.

My expectation is that you will conduct the assessment with the following priority considerations:

- Your actions should be guided with PERSONNEL AND PUBLIC SAFETY as your primary responsibility.
- Assess the risk to human life and property from impaired watershed conditions and recommend appropriate emergency treatments or protective actions. Specifically, assess the risk to and the feasible protection of downstream values on reservation lands from the threat of future flooding or debris flow events.
- Protect cultural resources important to the Agua Caliente Band of Cahuilla Indians.
- Protect species that are either identified as threatened, endangered, or sensitive and include wildlife considered important by the Agua Caliente Band of Cahuilla Indians.

Maja Pepion is designated as my Agency Representative for the Mountain Fire. I expect you to keep the BIA and the Agua Caliente Tribe regularly informed of critical issues throughout the assessment. Please coordinate periodically and provide a review period at the end of the assessment for our involvement. If at any time you believe you are unable to meet the intent outlined in this delegation, please contact me to work out any necessary changes. My phone number is (760) 416-2133, ext. 222 (Office) or (760) 534-4119 (Cell)



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Palm Springs Field Office
1201 Bird Center Drive
Palm Springs, California 92262



Memorandum

To: TJ Clifford, Team Leader, Burned Area Emergency Response (BAER) Team

From: Holly Roberts, Acting Field Manager

Subject: Mountain Fire BAER Assessment

You are hereby delegated authority and responsibility to assess post fire effects and produce an Emergency Stabilization (ES) Plan outlining measures and standards necessary to mitigate fire damage resulting from the Mountain Fire. All BAER activities will be conducted within the framework of provisions contained in Part 620 Department of Interior Manual Chapter 3 policy and sound resource management practices.

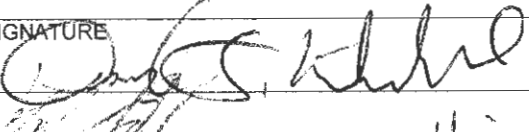
Your primary responsibility is to organize and direct your assigned resources to establish cost effective measures to protect the resources of the Palm Springs Field Office and Santa Rosa & San Jacinto Mountains National Monument from further damage and initiate the process of recovery. You are to work in cooperation with the Palm Springs Agency and the Agua Caliente Band of Cahuilla Indians.

Please prepare an ES Plan that includes the appropriate level of environmental analysis to support the implementation of standard treatments that mitigate fire damages resulting from the Mountain Fire.

As the Team Leader of the BAER planning process, you are accountable to the National Monument Manager and to the State ESR Coordinator. On any occasion that I am not immediately available, James Gannon, has full authority to represent me.

Holly Roberts
Acting Field Manager

National Interagency Burned Area Emergency Response	1. WORK PROJECT/ACTIVITY BAER Assessments	2. LOCATION 2013 Mountain Fire	3. UNIT BAER Team
JOB HAZARD ANALYSIS (JHA)	4. NAME OF ANALYST	5. JOB TITLE	6. DATE PREPARED 07/26/2013
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE	
General Field work, monitoring	General personal safety	Bring your radio with charged battery Sign out;	
		If going to a remote area alone let someone know specifically where you will be; Be sure someone knows you have returned.	
		Cover areas of exposed skin with proper personal protective clothing.	
	Sun and hyperthermia	Use sunscreen to prevent sunburn.	
		Drink enough water to keep hydrated and prevent heat exhaustion or heat stroke (at least 2 quarts in summer).	
		Pace yourself when climbing steep, open slopes.	
	Hypothermia and cold	Carry extra clothes; wear layers to prevent sweating and subsequent cooling.	
		Bring rain gear, hat, warm gloves with you everyday.	
		Use extra caution in stream bottoms to prevent falling in water and hypothermia.	
	Giardia / insects	Don't drink unfiltered or untreated water from creeks.	
		Check yourself daily for ticks, especially hair.	
		Tuck pants into boots, shirt into pants, wear long sleeves.	
Field surveys, monitoring	Steep slopes, Remote worksites	Wear vibram soled shoes, with good ankle support.	
		Carry a radio, leave itinerary.	
Mapping/Inventory Within Fire Perimeter	Working within fire perimeter.	Wear PPE (Hard Hat, leather boots, NOMEX, fire shelter, goggles, and gloves) at all times. Recognize fires are not controlled. Know your 10 standard fire orders and "watch out" situations.	
	Stump/root holes	Keep your eyes on path of travel. Stop your travel and complete task if your attention is diverted.	

	Snags/Hazard trees	Size up your surroundings. Avoid work in areas where hazards exist. Be aware of expected conditions. Post a lookouts if the wind picks up.
	Slippery footings	Be aware in areas of wet ash, loose rocks, and unstable slopes.
	Rattle snakes	Be aware at all times.
Communication/Coordination with Team Leaders and Suppression Personnel	Personal Health and Safety	Take care of cuts, bruises, and blisters immediately. Report accident to Team Leader and complete accident report.
	Lightning	Check weather report, stay off ridge tops and open slopes during lightning storms If stuck in open keep radio and metallic objects away from you, squat down with only feet on ground using insulate pad if possible, keep as much of your body off the ground as possible.
	Falling rocks	Wear hardhat if in area with loose rocks; don't work directly above another person; be wary of rocks.
	Heavy brush	Wear long sleeve shirt; goggles
	Insect bites	Wear long sleeve shirt and hat; use repellent at your discretion. Carry anti-histamine and asthma-inhaler for bee stings. If known allergic carry proper medication and instruct coworkers in administration.
		Report your next day's work area to Team Leader by 1800 the previous day in order to be included in next day's shift plan.
		Be sure to check in with Division Sup.Group before entering and leaving fire perimeter.
Driving	Vehicle accidents and associated injury	Always wear safety belts and make sure everyone is buckled up! Drive carefully on heavily travelled roadways. Driving defensively means anticipating the other drivers actions before it happens. Back your vehicle in when parking and use a ground guide when available. Drive carefully in snow and mud, chain up BEFORE you get stuck. Don't attempt accessing remote areas in poor conditions Roads are narrow, drive defensively, giving yourself enough time/space to react to other drivers. Maintain stopping distance of half the distance you can see. Drive with headlights on. Stop and take a break if you feel sleepy while driving, or let someone else drive. If possible, remove hazards from roadbed rather than try to drive over or around them.
10. SIGNATURE  26 JUL 2013		11. TITLE
		12. DATE

Allen
Shank
Candice

Wayne Wagner
Dai'Ball
Edward H. H.

Kennell Hill

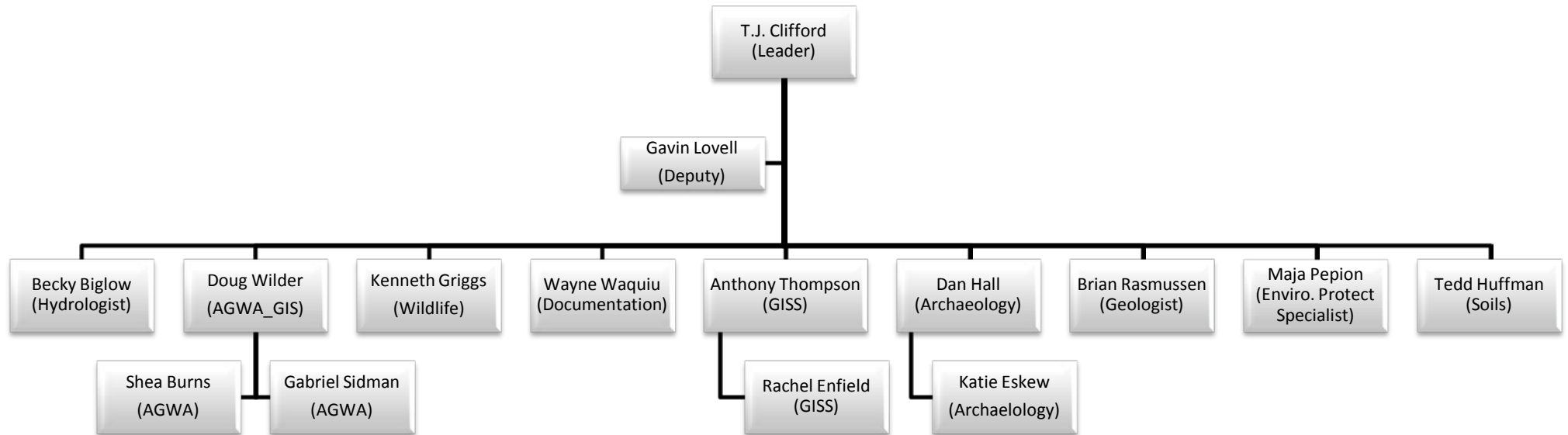
**Mountain Fire
BAER Team Roster
D.O.I. /U.S.F.S.
27-Jul-13**

Position	Name	Cell	Email	AGENCY
Team Lead	T.J. Clifford	(208) 866-3204	tclifford@blm.gov	DOI
	Katie Vin Zant	(626)383-1626	kvinzant@fs.fed.us	USFS
Team Deputy	Gavin Lovell	(307)389-3425	g75lovel@blm.gov	DOI
Team Liaison	Todd Ellsworth	760-937-2033	tellsworth@fs.fed.us	USFS
Team Coordinator	Robert Taylor	(909)693-2875	rgtaylor@fs.fed.us	USFS
Team Advisor (NIFC)	Darryl Martinez	(505) 331-3514	darryl.martinez@bia.gov	DOI
Environmental Compliance	Maja Pepion	(951) 532-4414	maja.pepion@bia.gov	DOI
Vegetation	Kerry Johnston	(626)698-9047	kajohnston@fs.fed.us	USFS
Geologist	Brian Rasmussen	(530) 949-9838	brian_rasmussen@nps.gov	DOI
Hydro	Becky Biglow	(541) 337-5582	becbiglow@gmail.com	DOI
	Robert Taylor			
	Bill Wells	(520)343-4248	williamwells@fs.fed.us	USFS
	Casey Shannon	(760)937-6790	cshannon@fs.fed.us	USFS
Soils	Tedd Huffman	(304) 940-5469	efhuffman@fs.fed.us	DOI
	Curtis Kvamme	(208) 596-5369	curtiskvamme@fs.fed.us	USFS
	Alex Janicki	(209) 352-5668	ajanicki@fs.fed.us	USFS
Cultural/Heritage	Dan Hall	(916) 803-3840	dan.hall@bia.gov	DOI
	Glenn Sundstrom	(530)-913-2614		
	Katie Eskew	(760) 699-6829	keskew@aguacaliente.net	DOI
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	Nathan Sill	(626) 698-8996	nsill@fs.fed.us	USFS
	Kim Boss	(909)-382-2936	kboss@fs.fed.us	USFS
GISS	Anthony Thompson	(505)235-3543	anthony.Thompson@bia.gov	DOI
	Rachel Endfield	(928) 594-1309	rach_endfield@frontiernet.net	DOI
Documentation	Wayne Waqui	(505) 259-6483	wayne.waqui@bia.gov	DOI
AGWA_GISS	Doug Wilder	(608) 628-0841	doug_wilder@nps.gov	DOI
	Shea Burns	(520) 403-8935		
	Gabriel Sidman	(952) 232-9981		
Recreation/trails	Andy Smith	(801) 891-6188	ansmith@fs.fed.us	USFS

BURNED AREA EMERGENCY RESPONSE TEAM (BAER)

MOUNTAIN FIRE

PALM SPRINGS AGENCY (BIA)



Issues and Concerns

2013 Mountain Fire- Palm Springs Agency- Agua Caliente

					ES	Suppression	BAR	No Issue
<u>Discipline</u>		<u>General Issue Topic</u>	<u>Location</u>	<u>Specific Issue</u>				
Hydro	1	Flooding	Various	Water quality; ash, silt, & debris				
				Natural Spring blockage				
				High toxicity in water				
				Monsoonal Precipitation & Winter Precipitation				
				High runoff				
				Severly burned slopes- revegetaion				
Hydro	2	Culverts	Tribal roads	Tribe is currently working on replacing culverts- team will give our designs to assist in the future effort				
Hydro	3	Stream gages	Andres					
			Palm					
			Taquitiz					

2013 Mountain Fire- Palm Springs Agency- Agua Caliente

2013 Mountain Fire- Palm Springs Agency- Agua Caliente					ES	Suppression	BAR	No Issue
<u>Discipline</u>		<u>General Issue Topic</u>	<u>Location</u>	<u>Specific Issue</u>				
Cultural	4	Cultural Resources	Alluvial fan	Movement of water flow due to channel fill				
			JoPond Trail					
			Numerous	Uncovered artifacts				
				Looting				
				Artifacts covered or washed away				
Hydro	5	Trails	Various	Public safety				
				Culverts				
Wildlife/Env Compliance	6	Threatened & Endangered Species	Various	Penninsular Bighorn Sheep				
				California red-legged frog				
				Mountain yellow-legged frog				

2013 Mountain Fire- Palm Springs Agency- Agua Caliente

2013 Mountain Fire- Palm Springs Agency- Agua Caliente					ES	Suppression	BAR	No Issue
<u>Discipline</u>		<u>General Issue Topic</u>	<u>Location</u>	<u>Specific Issue</u>				
				least Bell's vireo				
				Coachella Valley fringe-toed lizard				
				Coachella Valley milk-vetch				
	7	Weeds	Various	Post-fire invasives				
	8	Maynard Mine	Andreas Canyon	Likey outside of channel				x
8/4/2013				3		6 Mountain Issues Concerns		

2013 Mountain Fire- Palm Springs Agency- Agua Caliente

2013 Mountain Fire- Palm Springs Agency- Agua Caliente					ES	Suppression	BAR	No Issue
<u>Discipline</u>		<u>General Issue Topic</u>	<u>Location</u>	<u>Specific Issue</u>				



United States Department of the Interior



FISH AND WILDLIFE SERVICE
CARLSBAD FISH AND WILDLIFE OFFICE
6010 HIDDEN VALLEY ROAD, SUITE 101
CARLSBAD, CA 92011
PHONE: (760)431-9440 FAX: (760)431-5901
URL: www.fws.gov/carlsbad/

Consultation Tracking Number: 08ECAR00-2013-SLI-0386

July 29, 2013

Project Name: Mountain Fire DOI BAER Emergency Stabilization

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project.

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment



United States Department of Interior
Fish and Wildlife Service

Project name: Mountain Fire DOI BAER Emergency Stabilization

Official Species List

Provided by:

CARLSBAD FISH AND WILDLIFE OFFICE
6010 HIDDEN VALLEY ROAD, SUITE 101
CARLSBAD, CA 92011
(760) 431-9440
<http://www.fws.gov/carlsbad/>

Consultation Tracking Number: 08ECAR00-2013-SLI-0386

Project Type: Fire

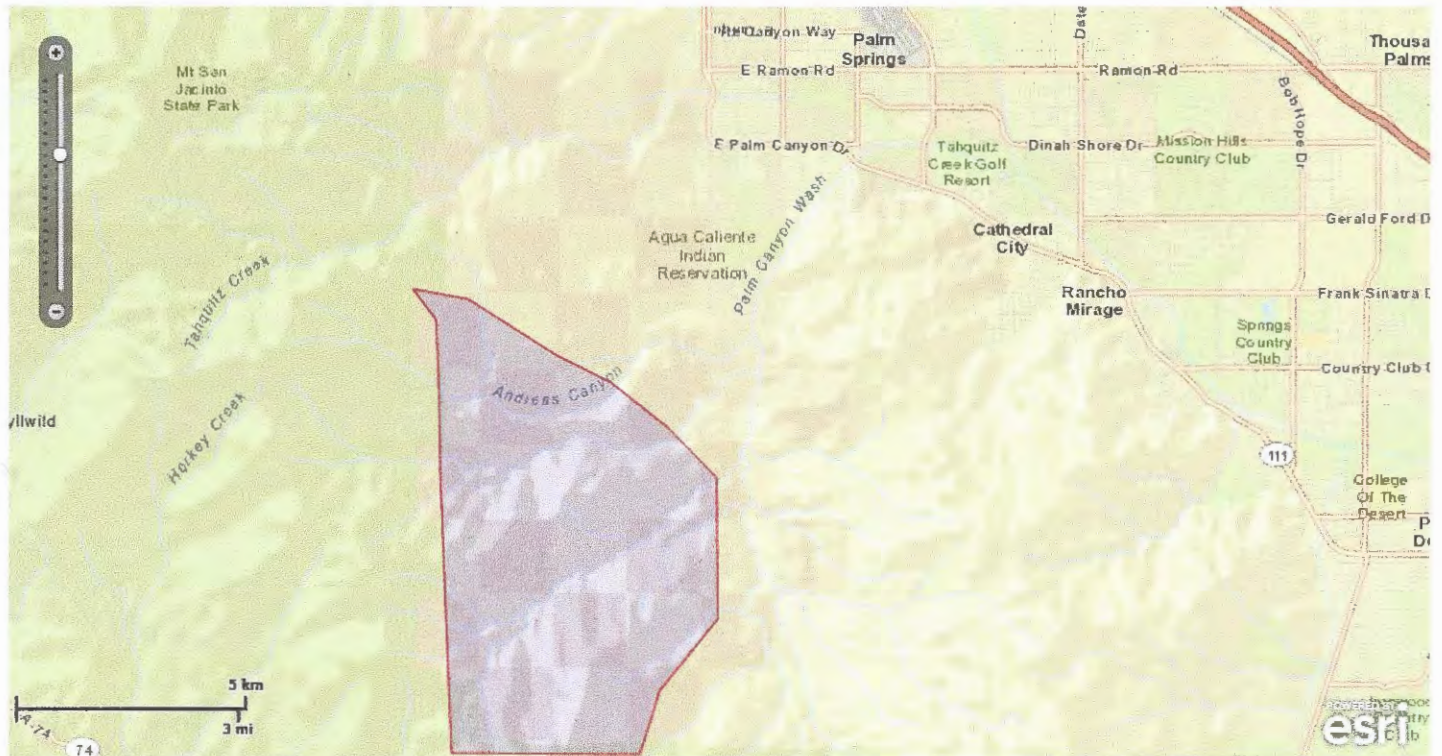
Project Description: This species list is being requested to as part of the emergency consultation process for Burned Area Emergency Response stabilization treatments on the Mountain Fire. The DOI BAER team is only address treatments being proposed on BLM and tribal lands within the fire perimeter. Consultation was initiated with John Taylor at the FWS Palm Springs Office.



United States Department of Interior
Fish and Wildlife Service

Project name: Mountain Fire DOI BAER Emergency Stabilization

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-116.6153514 33.7728668, -116.6023051 33.7708691, -116.5817057 33.7600377, -116.5687625 33.7546287, -116.5554759 33.7458365, -116.5437171 33.7359727, -116.5434081 33.7083881, -116.5569865 33.6943639, -116.561793 33.6817945, -116.6060816 33.6820659, -116.6088282 33.7374859, -116.6091716 33.7557562, -116.6098582 33.7668877, -116.6153514 33.7728668)))

Project Counties: Riverside, CA



United States Department of Interior
Fish and Wildlife Service

Project name: Mountain Fire DOI BAER Emergency Stabilization

Endangered Species Act Species List

Species lists are not entirely based upon the current range of a species but may also take into consideration actions that affect a species that exists in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Please contact the designated FWS office if you have questions.

Caseys June Beetle (*Dinacoma caseyi*)

Population: Entire

Listing Status: Endangered

Coachella Valley Fringe-Toed lizard (*Uma inornata*)

Population: Entire

Listing Status: Threatened

Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*)

Listing Status: Endangered

Critical Habitat: Proposed

Desert tortoise (*Gopherus agassizii*)

Population: U.S.A., except in Sonoran Desert

Listing Status: Threatened

Least Bell's vireo (*Vireo bellii pusillus*)

Population: Entire

Listing Status: Endangered

Mountain Yellow-Legged frog (*Rana muscosa*)

Population: southern California DPS

Listing Status: Endangered

Peninsular bighorn sheep (*Ovis canadensis nelsoni*)

Population: Peninsular CA pop.

Listing Status: Endangered



United States Department of Interior
Fish and Wildlife Service

Project name: Mountain Fire DOI BAER Emergency Stabilization

Quino Checkerspot butterfly (*Euphydryas editha quino* (= *e. e. wrighti*))

Population: Entire

Listing Status: Endangered

Southwestern Willow flycatcher (*Empidonax traillii extimus*)

Population: Entire

Listing Status: Endangered



BAER_CLOSEOUT
Mountain Fire

Date: 8/2/2013

Name	Organization	Phone # (cell or work)
Ollie Beyal	BTA Palm Springs	760 534-4119
Cheryl Nillman	BLM Palm Springs FO	760 833 7111
Todd J. Elsworth	Forest Service, Inyo Natl	760-937-2033
George Kline	BLM Palm Sprs. F.O.	760-833-7135
DAN HALL	BIA Pacific Region Sacto	916-978-6041
Brian Rasmussen	NPS Whiskeytown NRI	530.242.3444
Maia Pepion	BIA - SCA	951-532-4414
Becky Biglow	BIA (SWA)/EDAI	541-337-5582
Ken Griggs	US FWS	707-498-5548
Wayne Warren	BIA-SW Region	505-259-6483
JAMES GANNON	BLM CA-CDD	760 833 7122
Patricia Garcia	Agua Caliente	(760) 699-6907
Gavin Lovell	BLM	(307) 389 3425
John Lavalleg	ACBCI	(c) 951 392 5459
Tom Kieley III	ACBCI	(c) 760-861-9145
T.J. Clifford	BLM	208 866 3204

2013 Mountain Fire
Cost/Risk Analysis – Watershed

Part 1. Treatment Cost

Treatments	Cost
Andreas Canyon Infrastructure Protection	\$22,120
Road Debris Removal	\$25,080
Flood warning: Signs and Hazard Warnings	\$19,380
Debris Removal from Culverts and Ditches	\$38,670
Total	\$105,250

Part 2. Probability of Rehabilitation Treatments Successfully Meeting ESR Objectives

Treatments	Units	%
Andreas Canyon Infrastructure Protection	Days	85
Road Debris Removal	Debris Removal Events	95
Flood warning: Signs and Hazard Warnings	Signs/Kiosk	90
Debris Removal from Culverts and Ditches	Debris Removal Events	90

Risk of Resource Value Loss or Damage

No Action-Treatment Not Implemented (check one)

Resource Value	None	Low	Mid	High
Lives				x
Residential & Commercial Property			x	
Water Quality & Soil Productivity			x	
Cultural Resources			x	
Roads				x

Proposed Action☐ Treatments Successfully Implemented (check)

Resource Value	None	Low	Mid	High
Lives		x		
Residential & Commercial Property		x		
Water Quality & Soil Productivity		x		
Cultural Resources		x		
Roads		x		

PART 3. SUMMARY

- Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action Yes [X] No [] Rationale for Answer:

Andreas Canyon Infrastructure Protection: There are lower anticipated risks to property and infrastructure as the result of implementing the proposed action. Without these actions, there is a much greater risk to property from flooding in post-fire watershed conditions.

Road Debris Removal: There are lower anticipated risks to human life and property as the result of implementing the proposed action. Increased runoff is expected in burned areas as a result of the Mountain Fire, particularly in severely burned areas. Roads with insufficient drainage relief will experience accelerated debris deposition road surfaces causing greater risk to life and property.

Flood warning: Signs and Hazard Warnings: The hazard signs are installed to alert the public of the hazards they may encounter in the fire area or due to downstream debris deposition on roads due to flash flooding in post-fire watershed conditions.

Debris Removal from Culverts and Ditches: There are lower anticipated risks to human life and property as the result of implementing the proposed action. Increased runoff is expected in burned areas as a result of the Mountain Fire, particularly in severely burned areas. Roads with insufficient drainage relief will experience accelerated debris deposition road surfaces causing greater risk to life and property.

No Action Yes [] No [X] Rational for answer:

Andreas Canyon Infrastructure Protection: Risks private property is certain to be elevated should the proposed action not be implemented. If the actions are not implemented, post-fire watershed conditions have a high probability of damaging property and infrastructure in Andreas Canyon Day Use Area.

Road Debris Removal: Risks to human life and property and are certain to be elevated should the proposed action not be implemented. Increased amounts of runoff from rain events on roads will result in debris deposition along road surfaces and to the surrounding landscape that may pose significant and unacceptable risks.

Flood warning: Signs and Hazard Warnings: Without implementing this treatment the public will be less informed of the hazards they may face in the area and could be in danger.

Debris Removal from Culverts and Ditches: Risks to human life and property and are certain to be elevated should the proposed action not be implemented. Increased amounts of runoff from rain events on roads will result in debris deposition in culverts causing roads to fail that will pose significant and unacceptable risks.

Alternative(s) Yes ☐ No ☒ Rationale for answer:

Andreas Canyon Infrastructure Protection: Other treatments such as installation of K-Rails, channel excavation, and complete closure of the area were considered, however the proposed actions were by far the most cost effective measures, are tested, and known to be effective. Complete closure of the area would be a large financial burden to the tribe and not an acceptable alternative.

Road Debris Removal: There are no other viable alternatives to the proposed action except road closure, which would be a large financial burden to the tribe and not an acceptable alternative.

Flood warning: Signs and Hazard Warnings: There are no viable alternatives to the proposed action except road closure, which would be a large financial burden to the tribe and not an acceptable alternative.

Debris Removal from Culverts and Ditches: There are no viable alternatives to the proposed action except road closure, which would be a large financial burden to the tribe and not an acceptable alternative.

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes ☒ No ☐ Rational for answer:

Andreas Canyon Infrastructure Protection: The probability of success by implementing the proposed action is sufficient to justify the modest costs that will be incurred, particularly when considering the certain and unacceptable risks property that would result otherwise.

Road Debris Removal: The probability of success by implementing the proposed action is sufficient to justify the modest costs that will be incurred, particularly when considering the certain and unacceptable risks to human life and property that would result otherwise.

Flood warning: Signs and Hazard Warnings: The probability of success by implementing the proposed action is sufficient to justify the modest costs that will be incurred, particularly when considering the certain and unacceptable risks to human life, property, and natural resources that would result otherwise. These are very cost effective methods for informing the public of hazards

Debris Removal from Culverts and Ditches: The probability of success by implementing the proposed action is sufficient to justify the modest costs that will be incurred, particularly when considering the certain and unacceptable risks to human life and property that would result otherwise.

No Action Yes ☐ No ☒ Rational for answer:

Andreas Canyon Infrastructure Protection: The risks to property posed by post-fire watershed conditions will result in unconstrained transport of sediment and debris that may pose significant and unacceptable risks unacceptable when compared with the modest costs of implementing the proposed action.

Road Debris Removal: The risks to human life and property by post-fire watershed conditions that deposit debris on roads are unacceptable when compared with the modest costs of implementing the proposed action.

Flood warning: Signs and Hazard Warnings: Signs are relatively cheap and inform the public of hazards. No action places the public in jeopardy and is not worth the cost savings.

Debris Removal from Culverts and Ditches: The risks to human life and property by post-fire watershed conditions that will plug culverts on roads are unacceptable when compared with the modest costs of implementing the proposed action.

3. Which approach will most cost-effectively and successfully attain the Emergency Stabilization and Rehabilitation objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action Yes [X] No [] Rational for answer:

Andreas Canyon Infrastructure Protection: The proposed action is the only viable and cost effective alternative to ensure greatly reducing the risks to property posed by elevated flow events. The probability of success is commensurate with the modest costs for implementation.

Road Debris Removal: The proposed action is the only viable and cost effective alternative to ensure that debris is removed from roads allowing for safe passage on the roads. The probability of success is commensurate with the modest costs for implementation.

Flood warning: Signs and Hazard Warnings: Installations of the hazard signs should occur as outlined in the specification. This is a cost effective method to provide for public safety.

Debris Removal from Culverts and Ditches: The proposed action is the only viable and cost effective alternative to ensure that debris in culverts is removed from roads allowing for safe passage on the roads. The probability of success is commensurate with the modest costs for implementation.

Proposed Land Exchange between
Bureau of Land Management and
Agua Caliente Band of Cahuilla Indians

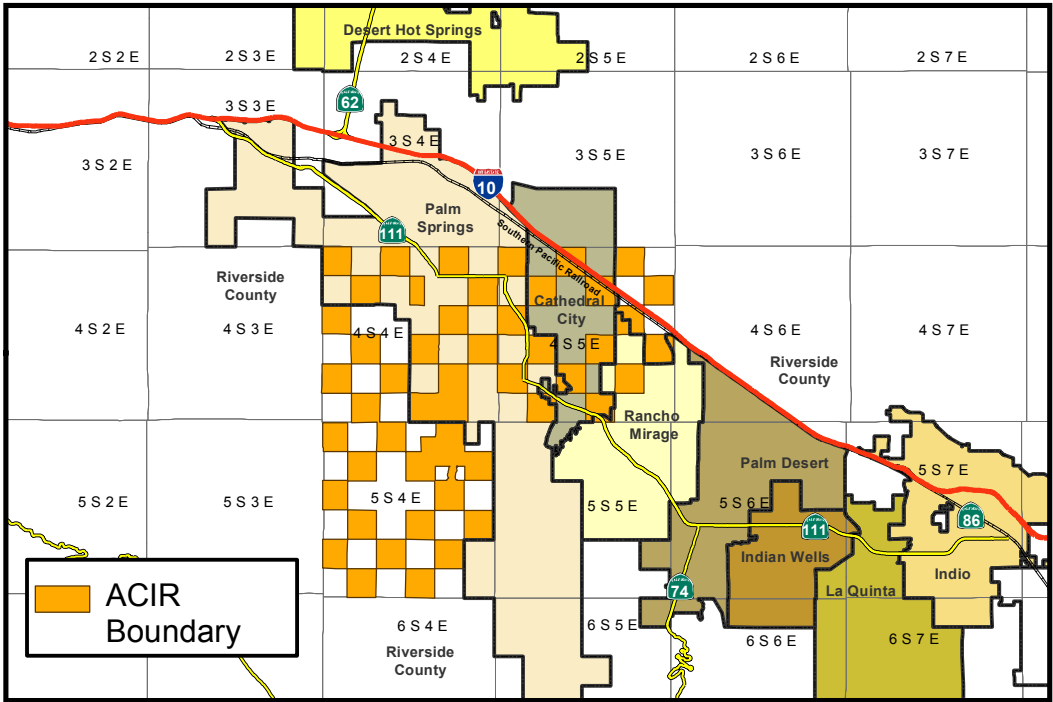
- Trailheads
- Trails
- Santa Rosa & San Jacinto Mountains National Monument
- 14 Reservation Sections
- BLM Owned Parcels
- ACBCI THCP Covered Areas
- Land Exchange
 - Lands considered for transfer from ACBCI to US
 - Federal lands considered for transfer from US to ACBCI
 - Federal lands not proposed for inclusion in first transaction
 - Federal lands which may be proposed for inclusion in first transaction

T5S, R4E, Sec 32 was provided to the team as tribal ownership, however, further research identified this to be in error. This section was considered tribal for the purposes of this BAER assessment, due to the management within THCP.
T5C R4E/2012



0 0.5 1 1.5 2 Miles

Boundary data in this map is for representation purposes only. It does not cover questions of location which a survey map may disclose.



2013 Mountain Fire

Cost/Risk Analysis – Spring Protection Treatments

Part 1. Treatment Cost

Treatments	Cost
Spring Protection-ACBCI	\$4,920
Spring Protection-BLM	\$4,920
Total	

Part 2. Probability of Stabilization Treatments Successfully Meeting ESR Objectives

Treatments	Units	%
Spring Protection-ACBCI	8 springs treated	90
Spring Protection-BLM	8 springs treated	90

Risk of Resource Value Loss or Damage

No Action-Treatment Not Implemented (check one)

Resource Value	None	Low	Mid	High
Lives		X		
Residential & Commercial Property		X		
Water Quality & Soil Productivity				X
Cultural Resources		X		
Roads		X		

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	None	Low	Mid	High
Lives	X			
Residential & Commercial Property	X			
Water Quality & Soil Productivity		X		
Cultural Resources	X			
Roads	X			

PART 3. SUMMARY

1. Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action	Yes ☒ No ☐ Rationale for Answer: Spring Protection - ACBCI The Federally endangered Peninsular bighorn sheep (PBS), requires free standing water for its continued survival. Sediment and ash flows have already begun to fill in and cap springs and pools used as water sources. The proposed action will remove sediment and ash from these points to provide free standing water and significantly benefit PBS, other wildlife using these water sources, and sensitive riparian and oasis habitats. The proposed action poses no risk to natural resources or private property. Spring Protection - BLM Pools and springs will also be treated on BLM lands; therefore the rationale is the same. The Federally endangered Peninsular bighorn sheep (PBS), requires free standing water for its continued survival. Sediment and ash flows have already begun fill in and cap springs and pools used as water sources. The proposed action will remove sediment and ash from these points to provide free standing water and significantly benefit PBS, other wildlife using these water sources, and sensitive riparian and oasis habitats. The proposed action poses no risk to natural resources or private property.
No Action	Yes ☐ No ☒ Rationale for answer: Spring Protection - ACBCI Without this treatment PBS could be extirpated from the San Jacinto Recovery Unit. When springs and pools fill with sediment and free standing water is no longer available, PBS will leave the area in search of water. This could result in population declines for this rare species, as forage, lambing, and escape habitats could be sub-optimal and increase predation risk and their ability to meet daily energetic requirements. Without continued maintenance in the first year post fire, sediment removal from filled springs and pools will be uneconomical and less feasible. Spring Protection - BLM Without this treatment PBS could be extirpated from the San Jacinto Recovery Unit. When springs and pools fill with sediment and free standing water is no longer available, PBS will leave the area in search of water. This could result in population declines for this rare species, as forage, lambing, and escape habitats could be sub-optimal and increase predation risk and their ability to meet daily energetic requirements. Without continued maintenance in the first year post fire, sediment removal from filled springs and pools will be uneconomical and less feasible.
Alternative(s)	Yes ☐ No ☒ Rationale for answer: Spring Protection - ACBCI Spring Protection - BLM There are no viable, cost-effective alternatives to this proposed treatment.

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action

Yes ☒ No ☐ Rationale for answer:

Spring Protection - ACBCI

This is a low-cost treatment. Given the high probability of success, the cost is acceptable.

Spring Protection - BLM

This is a low-cost treatment. Given the high probability of success, the cost is acceptable.

No Action

Yes ☐ No ☒ Rationale for answer:

Spring Protection - ACBCI

No action will lead to springs and pools being filled and capped with sediment. PBS would be left without a critical habitat element that is key to their survival. Without clean-outs happening within the first year post fire, pools will fill to the point that future sediment removal will be much more costly.

Spring Protection - BLM

No action will lead to springs and pools being filled and capped with sediment. PBS would be left without a critical habitat element that is key to their survival. Without clean-outs happening within the first year post fire, pools will fill to the point that future sediment removal will be much more costly.

Alternative(s) Yes ☐ No ☒ Rationale for answer:

Spring Protection - ACBCI

Spring Protection - BLM

There is no viable alternative for this specification.

3. Which approach will most cost-effectively and successfully attain the Emergency Stabilization and Rehabilitation objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action Yes ☒ No ☐ Rationale for answer:

Spring Protection – ACBCI and Spring Protection - BLM are ES treatments identified in Part F of the BAER Plan. It is highly likely that the no action alternative would result in substantial degradation of PBS water sources and result in local extirpation from the San Jacinto Recovery Unit. Taking early action now will be feasible and cost effective and benefit PBS and these sensitive riparian and oasis habitats for years to come.

2013 Mountain Fire Cost/Risk Analysis – Vegetation Treatments

Part 1. Treatment Cost

[illegible]

Part 2. Probability of Stabilization Treatments Successfully Meeting ESR Objectives

Treatments	Units	%
Invasive Species Detection and Control-ACBCI	125 acres	90
Invasive Species Detection and Control-BLM	120 acres	90

Risk of Resource Value Loss or Damage

No Action-Treatment Not Implemented (check one)

Resource Value	None	Low	Mid	High
Lives		X		
Residential & Commercial Property	X			
Water Quality & Soil Productivity				X
Native Plant Communities				X
Cultural Resources	X			
Roads	X			

Proposed Action - Treatments Successfully Implemented (check one)

Resource Value	None	Low	Mid	High
Lives	X			
Residential & Commercial Property	X			
Water Quality & Soil Productivity		X		
Native Plant Communities			X	
Cultural Resources	X			
Roads	X			

PART 3. SUMMARY

1. Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action

Yes ☒ No ☐ Rationale for Answer:

Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI

The invasibility of plant communities burned in the Mountain Fire is high—the wildfire removed vegetative ground cover and created niches for noxious weed invasion. Identification and treatment of invasive species reasonably minimizes potential loss of wildlife habitat and ensures new noxious weed infestations do not degrade the ecological integrity of sensitive riparian areas. Implementing Early Detection and Rapid Response (EDRR) will ensure new invasions are detected and control actions will be planned for.

Noxious Weed/Non-native Invasive Species Assessment & Control – BLM

The same habitat types will be treated on BLM lands as on ACBCI lands therefore the rationale is the same. The invasibility of plant communities burned in the Mountain Fire is high—the wildfire removed vegetative ground cover and created niches for noxious weed invasion. Identification and treatment of invasive species reasonably minimizes potential loss of wildlife habitat and ensures new noxious weed infestations do not degrade the ecological integrity of sensitive riparian areas. Implementing Early Detection and Rapid Response (EDRR) will ensure new invasions are detected and control actions will be planned for.

No Action

Yes ☐ No ☒ Rationale for answer:

Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI

Without this treatment, those plant communities that are at risk of invasion could become infested with noxious weeds or non-native invasive species.

Without EDDR small occurrences could increase in size and density which would make future control methods uneconomical and seriously threaten biodiversity of tribal lands, reduce recreational opportunities for the public, and fragment wildlife habitat.

The No-Action alternative would prevent IPM from being implemented and delay requests for additional funding for any weed control.

Noxious Weed/Non-native Invasive Species Assessment & Control – BLM

Without this treatment, those plant communities that are at risk of invasion could become infested with noxious weeds or non-native invasive species.

Without EDDR small occurrences could increase in size and density which would make future control methods uneconomical and seriously threaten biodiversity of BLM lands, reduce recreational opportunities for the public, and fragment wildlife habitat.

The No-Action alternative would prevent IPM from being implemented and delay requests for additional funding for any weed control.

Alternative(s) Yes ☐ No ☒ Rationale for answer:
Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI
Noxious Weed/Non-native Invasive Species Assessment & Control – BLM
There are no viable, cost-effective alternatives to this proposed treatment.

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes ☒ No ☐ Rationale for answer:
Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI
This is a low-cost treatment. Given the high probability of success, the cost is acceptable.
Noxious Weed/Non-native Invasive Species Assessment & Control – BLM
This is a low-cost treatment. Given the high probability of success, the cost is acceptable.

No Action Yes ☐ No ☒ Rationale for answer:
Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI
Allowing invasive species to invade upland and riparian communities would result in altered ecological processes and a loss of wildlife habitat. Costs would be greater to control established weed populations rather than new infestations that are smaller in size.
Noxious Weed/Non-native Invasive Species Assessment & Control – BLM
Allowing invasive species to invade upland and riparian communities would result in altered ecological processes and a loss of wildlife habitat. Costs would be greater to control established weed populations rather than new infestations that are smaller in size..

Alternative(s) Yes ☐ No ☒ Rationale for answer:
Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI
Noxious Weed/Non-native Invasive Species Assessment & Control – BLM
There is no viable alternative for this specification.

3. Which approach will most cost-effectively and successfully attain the Emergency Stabilization and Rehabilitation objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action Yes ☒ No ☐ Rationale for answer:
Noxious Weed/Non-native Invasive Species Assessment & Control – ACBCI and Noxious Weed/Non-native Invasive Species Assessment & Control – BLM are treatments identified in Part F of the BAER Plan. It is highly likely that the no action alternative would result in substantial damage to natural resources and result in further fragmentation of plant communities. Precluding invasive species from becoming established is necessary to ensure that the ecological integrity of plant communities and wildlife habitat is maintained. Allowing riparian areas and arid desert scrub habitats to recover

from the wildfire and improve in ecological integrity will help to stabilize soils and prevent further degradation of habitats.

2013 Mountain Fire Cost/Risk Analysis – Cultural Resources

Part 1. Treatment Cost

[illegible]

Part 2. Probability of Rehabilitation Treatments Successfully Meeting ESR Objectives

[illegible]

Risk of Resource Value Loss or Damage

No Action-Treatment Not Implemented (check one)

Resource Value	None	Low	Mid	High
Lives	X			
Residential & Commercial Property	X			
Water Quality & Soil Productivity	X			
Cultural Resources				X
Roads	X			

Proposed Action

(Check one) Treatments Successfully Implemented

Resource Value	None	Low	Mid	High
Lives	X			
Residential & Commercial Property	X			
Water Quality & Soil Productivity	X			
Cultural Resources		X		
Roads	X			

PART 3. SUMMARY

- Are the risks to natural resources and private property **acceptable** as a result of the fire if the following actions are taken?

Proposed Action Yes [X] No [] Rationale for Answer:

#5 Cultural Site Protection: The protective measures specified for the features in Murray Canyon have no potential to place natural resources and private property at risk.

#8 Cultural Site Stabilization: The stabilization measures specified for the site along Andreas Creek have no potential to place natural resources and private property at risk.

No Action Yes [] No [X] Rational for answer:

#5 Cultural Site Protection: Selection of the No Action Alternative, the decision to not implement the Proposed Action has no potential to place natural resources or private property at risk. The subject of the Proposed Alternative, a cultural site is not a natural resource or private property.

#8 Cultural Site Stabilization: Selection of the No Action Alternative, the decision to not implement the Proposed Action may pose a risk to property as the stream bank would continue to erode.

Alternative(s) Yes ☒ No ☐ Rationale for answer:

#5 Cultural Site Protection: There is no viable alternative to the proposed action.

#8 Cultural Site Stabilization: A long term solution that would involve re-routing the existing stream channel to a currently abandoned channel was considered, but ultimately rejected due to time constraints under emergency conditions and certain design features that may not be permitted under the ES program. If this alternative had been selected, it would have posed no risk to property; however risks to natural resources are uncertain.

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes ☒ No ☐ Rational for answer:

#5 Cultural Site Protections: The feature identified for protection is a contributing element to the site's significance. The modest cost associated with this treatment is acceptable given the probability of success.

#8 Cultural Site Stabilization: The site identified for stabilization contains extremely sensitive features of importance to the Tribe. It is highly likely that without implementing the recommended treatment, the site will be subject to unacceptable degradation.

No Action Yes ☐ No ☒ Rational for answer:

#5 Cultural Site Protection: Selection of the No Action Alternative would likely result in unacceptable site degradation.

#8 Cultural Site Stabilization: Selection of the no action alternative would expose extremely sensitive site features to unacceptable risk.

3. Which approach will most cost-effectively and successfully attain the Emergency Stabilization and Rehabilitation objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action Yes ☒ No ☐ Rational for answer:

#5 Cultural Site Protections: The Proposed Action will best meet the stated objective. While selection of the no action alternative would incur no costs, the risk of doing so is unacceptable.

#8 Cultural Site Stabilization: The Proposed Action will best meet the stated objective. Elements of the alternative action fall outside of ES policy, and selection of the no action alternative would result in unacceptable site degradation.