USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: September 29, 2006

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[ ] 2. Interim Report #____
[ ] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Pinnacles Fire

B. Fire Number: BDF-9046

C. State: CA

D. County: San Bernardino

E. Region: 05

F. Forest: 12

G. District: Mountaintop Ranger District

H. Fire Incident Job Code: P5C6VR

I. Date Fire Started: September 19, 2006

J. Date Fire Contained: September 23, 2006, 1800 hours

K. Suppression Cost: 2.2 million

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 7.5 miles (Dozer 6.4 miles, Hand 1.1 miles)
2. Fireline seeded (miles): 0 miles
3. Other (identify):

M. Watershed Number: 180902080103, Lower Deep Creek

N. Total Acres Burned: 2503
NFS Acres(2503) Other Federal (0) State (0) Private (0)

O. Vegetation Types: Semi-Desert Chaparral, Lower Montane Mixed Chaparral, Scrub Oak, Coulter Pine, Singleleaf Pinyon Pine, Canyon Live Oak, Mixed Riparian Hardwoods, Mixed Desert Scrub, Willow

P. Dominant Soils: DxF – Wapi-Pacifico families, dry rock outcrop complex; DxG – Wapi-Pacifico families, dry rock outcrop complex; DxE – Wapi-Pacifico families, dry rock outcrop complex; DcF – Brader Morical families association; DpG – Lithic Xerothents, warm Rock Outcrop Complex

Q. Geologic Types: Monozogranite of Kinley Creek, Monozogranite of City Creek, Monozogranite of Burnt Flats, Mixed granite rocks of Silverwood Lake, Mixed diorite and gabbro, very young wash deposits, very young colluvial deposits, young alluvial valley deposits

R. Miles of Stream Channels by Order or Class: Perennial – 2 miles, Intermittent – 7 miles

S. Transportation System

Trails: 3 miles Roads: 3 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 310 (unburned) 1457 (low) 564 (moderate) 172 (high)

B. Water-Repellent Soil (acres): 736 acres

C. Soil Erosion Hazard Rating (acres):
312 (low) 1455 (moderate) 736 (high)

D. Erosion Potential: 11.5 tons/acre

E. Sediment Potential: 3,520 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 85%

C. Equivalent Design Recurrence Interval, (years): 5 years

D. Design Storm Duration, (hours): 6 hours

E. Design Storm Magnitude, (inches): 3.5 inches

F. Design Flow, (cubic feet / second/ square mile): 25.6 ft^3/second/square mile

G. Estimated Reduction in Infiltration, (percent): 26%

H. Adjusted Design Flow, (cfs per square mile): 32 cfs/square mile

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats: The following describes critical values at risk identified by the BAER Assessment Team. Table 1 summarizes all potential values at risk identified by the Forest and emergency determinations as a result of the Pinnacles Fire.

- State Highway 173 - *Threats to Life, Property, Water Quality/Soil Stability*: Only state highway in California with unpaved sections. Currently under "soft" closure by California Department of Transportation, however closure is not enforced and the route is traveled daily by commuters from the Lake Arrowhead and high desert communities. Slopes with high burn severity and lack of rock are present above the east side of the highway south of the Kinley Creek crossing and as a result there is potential for high levels of concentrated soil erosion onto the highway. Existing culverts along the highway are partially plugged and have high amounts of material in the approaches that could increase plugging. Two culverts have headcuts developing up to the edge of the highway on the fill slopes of the road, one of which has lost a section of culvert pipe. If highway infrastructure fails during a storm event, it is likely that loss of road bed will occur which could result in injury of highway travelers. Resulting damage to the road from above slopes could also cause increased erosion and sedimentation into Kinley Creek which has known occurrences of Federally Endangerd arroyo toad. Potential for increased rockfall within the fire area north of Burnt Flats on the west side of the state highway exists as a result of the burn. This section of road is primarily single lane for approximately 2 miles through the fire area with few turnouts available.

- Bradford Trail – *Threats to Water Quality/Soil Stability*: This is an unclassified trail that runs from the junction of Kinley Creek/State Hwy 173 to the Deep Creek Hot Springs. The Bradford trail was developed and is maintained by an unknown group of volunteers. The Forest Plan identifies that future designation of the trail may be consistent with critical biological land use zones if analysis shows designation would be neutral or benenfical to arroyo toads and willow flycatchers. Most of this trail is in the Kinley Creek subwatershed of Deep Creek. Because this trail has long reaches of insloped tread and lacks waterbars, there is high potential for increased erosion and sedimentation causing trail tread to fail, resulting in increased degadation of the Kinley Creek subwastershed.

- Federally Endangered Arroyo Toad – *Threats to Federally Endangered Species*: The largest impacts to aquatic ecosystems within the fire area and immediately downstream will be higher water flows and higher levels of sediment delivery to stream channels (specifically Kinley Creek) resulting in greater scouring and deposition. Since arroyo toads favor wide alluvial terraces, greater sediment delivery may create additional habitat if it is deposited in terraces and then vegetated. However, if high sediment loading occurs during egg laying and embryonic development (April – July), then toad eggs and juviniles could be washed away by scouring or suffocated under a layer of silt fines. Increased water flows during this season may reduce water quality as ash is transported downstream. Also, if stream flows are too swift, toad eggs could be washed away. The mosaic of burned and unburned areas of vegetation will greatly decrease distribution of ash and sediment. Vegetative recovery and minimization of the introduction on noxious weeds over the first five years will be critical to recovery of suitable upland arroyo toad habitat.

- Vegetative Recovery – *Threats to Water Quality/Soil Stability, Introduction Noxious Weeds*: Soil loss and loss of soil productivity on slopes above Kinley Creek could setback vegetative recovery. Increased off-highway vehicle access to areas denuded of vegetation will impede vegetative recovery. The unknowing introduction and dispersal of invasive weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish persistent weed populations. In addition, it is highly likely that existent weed infestations will increase in the burn area, due to their accelerated growth and reproduction and a release from competition with natives. These weed populations could affect the structure and habitat function of native plant communities within the burn area. It is expected that most native vegetation would recover if weed invasions are minimized. The high potential for the Pinnacles fire to increase the dominance of several invasive plant species on the Forest constitutes an emergency. All of these factors have the ability to impact arroyo toad habitat, water quality, and soil stability. Any management activity that would potentially setback vegetative recovery within the fire area, such as grazing, should first be evaluated by the district botanist and biologist to ensure uses are consistent with natural vegetative recovery of the burned watershed.

- Heritage Resources – *Threats to Cultural Resources*: The Pinnacles Fire burn area includes a high

number of known heritage resources, although the majority of the area has not been inventoried. A total of 12 previously recorded sites (10 prehistoric and 2 multicomponent) occur within the burn area. The results of the BAER assessment indicate that only one resource, CA-SBR-492 (FS# 05-12-51-00165) was at risk. Prehistoric site CA-SBR-492 contains bedrock milling features, butchering and plant processing tools and debitage, as well as midden deposits. The site is located along the closed Forest trail 3W03 in the vicinity of California State Highway 173. The site has not been formally evaluated for inclusion in the National Register of Historic Places (NRHP); however, the Forest is currently managing the site as if it were a listed property. The site appears to contain sufficient scientific data potential to be eligible for listing under Criterion D (36 CFR § 60.4). At present, the site is open to unauthorized vehicular access from the adjacent corridor of Forest trail 3W03 and Highway 173, increased risk of vandalism from the highly visible nature of the surface artifacts, as well as the potential for devastating erosional impacts from storm events along Kinley Creek. Current concerns center on the potential for increased vehicular traffic, looting, and erosion to create a sufficient loss of scientific data and degradation of site integrity that the site would no longer be considered eligible for listing in the NRHP.

Table 1: Summary of potential values at risk identified by Forest and emergency determinations.

Value At Risk	Concerns	Determination
State Highway 173	Plugged culverts, loss of road bed, loss of road infrastructure, increased rockfall.	Emergency exists to Life, Property, and Watershed Condition
Deep Creek Gauging Station	Located at bottom of Deep Creek near the Mojave Forks Dam. Was not impacted from post fire storm events of the 1999 Willow Fire which burned 65,000 acres in both the Deep Creek and Mojave River watersheds.	No Emergency
LACSD Sewer Pipe	Pipe runs through fire area along State Highway 173. Discussed concern of potential damage to pipe with site adminstrator. They are aware of the concern and will monitor.	No Emergency
Guzzlers/Developed Spring	Initial concern was risk for sediment burial of developed springs and guzzlers. Based on effects of post storm events after the 1999 Willow Fire and low to moderate severity around sites, these site are expected to have little or no damage.	No Emergency
Pacific Crest Trail	Potential damage to trail tread and low water crossings; and threat to trail users from increased rock fall. Due to low and unburned fire severity the fire did not exasurbate conditions on the Pacific Crest Trail. Trail is not expected to increase watershed response as a result of the fire.	No Emergency
Pinnacles Trail	Damage to trail as a result of increased sedimentation and erosion was initially a concern from the district. This trail is outside of the fire area and associated burned watersheds.	No Emergency
Bradford Trail	Initial concern is potential for increased erosion and sedimentation which could damage the trail and cause an increase of sedimentation into Kinley Creek.	Emergency exists to Kinley Creek watershed as a result of trail.
Water Quality/Soil Stability – Lower Deep Creek	Impairment of water quality and increased in sedimentation. Moderate impairment of water quality from the first few post fire storm events is expected for a short duration from ash introduction and increases of fine and course sediments. The high dilution factor (large watershed and flow) and capability of Deep Creek to move sediment will offset the negative watershed effects off the Pinacles Fire to Deep Creek.	No Emergency
Water Quality/Soil Stability - Kinley Creek	Moderate increases in water yield and sediment delivery to Kinley Creek. Adverse post-fire watershed effects such as slope rilling, soil loss and increased deposition will be more localized in nature within the upper burned watersheds. Water quality will be	No Emergency

	moderately to severely affected, for a short duration when the first post-fire heavy storm events occur over the winter as introduced ash and fine sediment will be entrained into Kinley Creek during these events.	
Critical/Occupied Habitat Southwest Willow Flycatcher	Designated critical habitat and known occurrences of southwestern willow flycatchers are within Deep Creek both up and downstream of the fire area. Concern is that post-fire impacts such as scour and deposition will adversely impact SWWF habitat. Capability of Deep Creek to move sediment will offset the negative watershed effects off the Pinacles Fire to Deep Creek.	No Emergency
Critical/Occupied Habitat Arroyo Toad	High sediment loading could occur during egg laying and embryonic development (April – July), resulting in toad eggs and young toads could be scoured away or suffocated under a layer of silt fines. Increased water flows during this season may reduce water quality as ash is transported downstream.	Emergency exists to Arroyo toads as a result of potential storm events occurring during breeding season.
Vegetative Recovery	Soil loss and loss of soil productivity on slopes above Kinley Creek could setback vegetative recovery. Increased off-highway vehicle access to areas denuded of vegetation will impede vegetative recovery and increase the potential for the introduction of noxious weeds. All of these factors have the ability to impact arroyo toad habitat, water quality, and soil stability.	Emergency exists to native vegetative recovery.
Prehistoric Cultural Sites	The upper section of Kinley Creek above the west fork tributary is located within a reach of lower gradient, and may overload with increases of sediment, possibly causing high flows to move out of the existing channel and braid new channels along the adjacent low terraces resulting in increased sedimentation and channel widening. A heritage site in this area may be adversely affected by this response.	Emergency exists to prehistoric cultural sites.
Forest Sensitive Plants	Concern of one population of San Bernardino owl's clover along Kinley Creek and a meadow sustaining San Bernardino owl's clover, Palmer's mariposa lily, and Mojave phacelia at the point of origin (south of the shooting range) were burned under low intensity in the Pinnacles fire. All of these species would have already bloomed and released their seed into the seedbank pre-fire. Seeds are more tolerant of heat on the ground than on the stem, leading to enhanced germination success and species recovery. In addition, these species are not threatened by eminent extirpation throughout their ranges.	No Emergency

B. Emergency Treatment Objectives:

- Land Treatments – Objectives are to increase soil stability and reduce the potential for concentrated erosion in high severity areas; protect cultural site, reduce the potential for impaired vegetative recovery and introduction of noxious weeds.
- Channel Treatments – Objective is to reduce erosion of channel embankment into heritage site.
- Road and Trail Treatments – Objective is to reduce channeling and connectivity along trail to effectively reduce the risk of increased watershed efficiency.
- Protection and Safety Treatments – Objective is to ensure communication of potential post fire values at risk has occurred.

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

Land **90** % Channel **80** % Roads/Trails **90** % Protection/Safety **90** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90%	100%	N/A
Channel	90%	100%	N/A
Roads/Trails	80%	95%	N/A
Protection/Safety	N/A	N/A	N/A

E. Cost of No-Action (Including Loss): 1,242,000

F. Cost of Selected Alternative (Including Loss): 129,516

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[ ] Soils	[ ] Geology	[ ] Range	[X] Recreation
[ ] Forestry	[X] Wildlife	[ ] Fire Mgmt.	[ ] Engineering	[ ]
[ ] Contracting	[ ] Ecology	[X] Botany	[X] Archaeology	[ ]
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[X] GIS	

Team Leader: Marc Stamer, San Bernardino National Forest, Mountaintop Ranger District

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Core Team

Casey Shannon (Hydrologist)
Kim Boss (Wildlife Biologist)
Jason Bill (GIS)
Doug McKay (Archaeologist)
Katie VinZant (Botanist)
Bob Poole (Recreation)

H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

- Heritage Site Stabilization/Slash Spreading: Mulching with native vegetation across the surface of prehistoric resource CA-SBR-492. Local vegetation will be spread across the surface of the site to obscure surface artifacts from looters, and to deter erosional impacts due to storm runoff from adjacent steep slopes. Mulching is also proposed on high severity slopes above State Highway 173 to reduce erosion and improve slope stability. A Type II hand crew will be used to implement the treatment. Estimated costs are $4000/day for approximately 7 days - $28,000.
- Installation of wattles on severity burn areas to reduced concentrated erosion and sediment on State Highway 173, and reduce the loss of soil productivity by capturing soil and seed bank. Estimated costs for installation is $11,500 which includes 1 Type II hand crew at $4000/day for 2 days, 2,000 linear feet of straw wattles for $3,550, and archaeological and biological monitors.
- Noxious Weed Detection Surveys: Surveys will begin in 2007 during the flowering periods of weed species. Because of differences in flowering times for all potential species, two visits may be required during the growing season. Completion of surveys in riparian areas, dozerlines, and

known invasive and sensitive plant populations will be the first priority. The second survey priorities will be along roads, handlines, and staging areas. Surveys of the general habitats in the burned area will be the lowest priority. All locations of weed species will be mapped, using the San Bernardino NF "weed species to map" list (Table 1.). Surveys will be completed using the NRIS protocol available at the national website: http://fsweb.ftcol.wo.fs.fed.us/frs/rangelands/index.shtml. Results will be entered into the NRIS database. Noxious weed detection survey plan is attached as appendix A.

Channel Treatments:

- Streambank Armoring: Construct a boulder deflector along the east bank of Kinley Creek to help prevent erosion from anticipated storm events. The deflector will prevent loss of site integrity due to the potential for storm event erosion to cut across the low terrace along the east bank of Kinley Creek and within the boundaries of prehistoric site CA-SBR-492. Implementation will utilize a backhoe to cut into the bank for a distance of less than 1 meter and for a length of 50 meters to heel in the boulders, as well as a front end loader to transport the rock. Costs are estimated to include specialist time to conduct field work, write a report, monitor implementation, and consult with Tribal governments and the California State Historic Preservation Officer (SHPO). Estimated total costs are $7700, based on 7 days specialist time (2 man days field work; 2 man days report writing; 2 man days to monitor implementation; and 1 man day for Tribal and SHPO consultation). One day for backhoe/transport, haul truck and 3 loads of rock.

Roads and Trail Treatments:

- Trail Stabilization: Installation of water bars along steep, insloped reaches of the Bradford trail above Kinley Creek to reduce the potential for increased watershed efficiency. Estimated costs are $8,000 for 1 Type II crew at $4,000/day for two days.

Protection/Safety Treatments:

- Interagency Communication: Provide copy of BAER report and cover letter articulating potential values at risk to State Highway 173 within the Pinnacles Burn area to California Department of Transportation and Lake Arrowhead Community Services District. Also provide requested report to Army Corps of Engineers which manages the Mojave Forks Dam downstream of Deep Creek. Estimated costs are $300 – 1 day for coordination.
- Protective Fences: Installation of fence approximately 2 miles of fence barriers to protect cultural resources by reducing the threat of looting and degradation of the unique prehistoric resource. Also, to improve vegetative recovery, and reduce the spread on noxious weeds. Estimated cost is $20,016 which includes $5,400 for materials, $14,616 for 1 crew of CCC's at $2,088/day for 7 days.

I. **Monitoring Narrative:**

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

Land Treatments:

- Heritage Site Stabilization/Slash Spreading – To ensure effectiveness of heritage site stabilization and protection heritage from erosion and loss of bank stability, monitoring funds for one archaeologist for 26 days are requested. Monitoring plan is attached as appendix B.

  Estimated Cost:
  1 – GS-11(district archaeologist)/26 days: **$9,100**

Channel Treatments:

- Streambank Armoring – Will be conducted at same time of land treatments. Monitoring plan is attached as appendix B.

Protection/Safety Treatments:

- Protective Fences - To ensure effectiveness of fencing treatment monitoring funds are requested. Fenced areas will be monitored by Forest Sevice employees twice a week to check status of fence and effectiveness in reducing off-highway vehicle travel onto burned National Forest Lands, and effectiveness of reducing looting of cultural sites. The Fence Effectiveness Monitoring Plan is attached as appendix C.

  Estimated Cost:
  1 - GS-05/52 days: **$10,400**

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

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	**Units**	**Cost**	**Units**	**BAER $**	**$**	**units**	**$**	**Units**	**$**	**$**
A. Land Treatments										
Heritage Site Stabilization/Slash Spreading	Days	4000	7	$28,000	$0		$0		$0	$28,000
Wattles	linear feet	5.775	2000	$11,550	$0		$0		$0	$11,550
Noxious Weed Detection Surveys	Days	500	8	$4,000	$0		$0		$0	$4,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$43,550	$0		$0		$0	$43,550
B. Channel Treatments										
Streambank Armoring	meters	153	50	$7,650	$0		$0		$0	$7,650
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$7,650	$0		$0		$0	$7,650
C. Road and Trails										
Trail Stabilization	Days	4000	2	$8,000	$0		$0		$0	$8,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$8,000	$0		$0		$0	$8,000
D. Protection/Safety										
Interagency Communication	Days	300	1	$300	$0		$0		$0	$300
Protective Fencing	Mile	10008	2	$20,016	$0		$0		$0	$20,016
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$20,316	$0		$0		$0	$20,316
E. BAER Evaluation										
Salary	Day	350	29	$10,150			$0		$0	$10,150
Per Diem	Day	135	7	$945					$0	$945
Mileage	Mile	0.5	1810	$905					$0	$905
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$12,000	$0		$0		$0	$12,000
F. Monitoring										
Land and Channel Treatments	Day	350	26	$9,100	$0		$0		$0	$9,100
Protection/Safety Treatments	Day	200	52	$10,400			$0		$0	$10,400
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$19,500	$0		$0		$0	$19,500
G. Totals				$111,016	$0		**$0**		**$0**	**$111,016**
Previously approved										
Total for this request				**$111,016**						

PART VII - APPROVALS

1. /s/ Max Copenhagen (for) — 9/29/06
   Forest Supervisor (signature) — Date

2. /s/ Thomas L. Tidwell (for) — 10/4/06
   Regional Forester (signature) — Date

Appendix A:

NOXIOUS WEED DETECTION SURVEY PLAN

Fire Name: Pinnacles Month/Year: September 2006
Author: Katie VinZant
Author Duty Station: San Bernardino National Forest: Mountaintop District

A. Background

Reducing the introduction and spread of non-native invasive species has been identified as a Forest Service Strategic Goal for 2003-2008. Wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), soft brome (*Bromus hordeaceus*), cheatgrass (*Bromus tectorum*), bull thistle (*Cirsium vulgare*), storksbill (*Erodium cicutarium*), shortpod mustard (*Hirschfeldia incana*), rabbitsfoot grass (*Polypogon monospeliensis*), and tumble mustard (*Sisymbrium* sp.) are known to occur within the burn area and along access routes to the burn. In addition, yellow star thistle (*Centaurea solstitialis*), Spanish broom (*Spartium junceum*), and saltcedar (*Tamarix ramosissima*) are known from locations less than three miles away. Several plant vectors such as Forest roads, trails, wind, and waterways occur within the fire area. In addition, seed could have been transported into the burn on suppression equipment and supplies. Fire is known to enhance the establishment of all weed species present.

B. Management Concerns

Noxious weed invasions interfere with habitat recovery and ecosystem health within burned areas and fire suppression sites (*e.g*. hand and dozer lines, drop points, and staging areas). In particular, noxious weeds hinder the recovery of habitat, especially in coastal sage scrub and riparian areas, by aggressive colonization and reduction of water quality and quantity.

C. Objectives

To determine if the fire and associated ground disturbing activities has promoted the establishment and spread of noxious weeds to the extent that eradication efforts are necessary. Early detection dramatically increases the likelihood of successful treatment. If weeds are detected, a supplemental request for BAER funds will be made for eradication.

D. Parameters

Noxious weed presence, location, density, population size, and persistence

E. Locations

In and along roads, trails, dozerlines, handlines, riparian areas, and adjacent to known sensitive and invasive plant populations

F. Weed Detection Survey Design and Methodology

Surveys will begin in 2007 during the flowering periods of weed species. Because of differences in flowering times for all potential species, two visits may be required during the growing season. Completion of surveys in riparian areas, dozerlines, and known invasive and sensitive plant populations will be the first priority. The second survey priorities will be along roads, handlines, and staging areas. Surveys of the general habitats in the burned area will be the lowest priority. All locations of weed species will

be mapped, using the San Bernardino NF "weed species to map" list (Table 1.). Surveys will be completed using the NRIS protocol available at the national website:
http://fsweb.ftcol.wo.fs.fed.us/frs/rangelands/index.shtml.
Results will be entered into the NRIS database.

Table 1. Weed Species to Map

***Acroptilon repens*	Russian knapweed

***Ageratina adenophora*	Eupatory
***Ailanthus altissima*	Tree of heaven
**Arundo donax*	Giant reed grass
A***Asphodelus fistulosus*	Asphodel
***Atriplex semibaccata*	Saltbush
**Brassica tournefortii*	African mustard
***Carduus pycnocephalus*	Italian thistle
**Centaurea solstitialis*	Yellow star thistle
**Centaurea maculosa*	Spotted Knapweed
***Centaurea melitensis*	Tocalote
***Cirsium vulgare*	Bull thistle
***Conium maculatum*	Poison hemlock
**Cortaderia selloana*	Pamapas grass
* *Delairea odorata*	German Ivy
* *Dipsacus sativus*	Teasel
****Dimorphotheca sinuata*	African daisy
AEichornia crassipes*	Water hyacinth
***Elaeagnus angustifolius*	Russian olive
***Eucalyptus globulus*	Blue gum
***Ficus carica*	Fig
**Foeniculum vulgare*	Fennel
****Fumaria officinalis*	Fumitory
***Hedera helix*	English ivy
AHydrilla verticillata*	Hydrilla
**Lathyrus latifolius*	Perrenial sweetpea
**Linaria genistifolia* ssp. *dalmatica*	Dalmatian toadflax
ALudwigia* sp.	Water primrose
AMyriophyllum aquaticum*	Parrotfeather
***Nicotania glauca*	Tree tobacco
****Olea europaea*	Olive
***Pennisetum clandestinum*	Kikuyu grass
***Pennisetum setaceum*	Fountain grass
****Picris echioides*	Bristly ox-tongue
****Piptatherum miliaceum*	Smilo grass
***Potamogeton crispus*	Curlleaf pondweed
****Prunus cerasifera*	Cherry plum
A***Retama monosperma*	Bridal broom
***Ricinus communis*	Castorbean
***Robinia pseudoacacia*	Black locust
**Rubus discolor*	Himalayan blackberry
****Salsola tragus*	Russian thistle
****Salsola paulsenii*	Barbwire Russian thistle
****Saponaria officinalis*	Bouncing bet
****Schinus molle*	Peruvian pepper tree
**Spartium junceum*	Spanish broom
**Tamarix ramosissima*	Saltcedar
****Tribulus terrestris*-	Puncture vine

CAL-IPC List Catagories

*Severe: Most Invasive Wildland Pest Plants; documented as aggressive invaders that displace natives and disrupt natural habitats.

**Moderate: Wildland Plants of Lesser Invasiveness; plants that spread less rapidly and cause a lesser degree of habitat disruption

***Limited: Wildland Plants of Limited Invasiveness; plants that have a limited distribution and impact on natural habitats or species for which there is not adequate information to describe its threat to wildlands

A Red Alert: Plants with potential to spread explosively, infestations currently localized or small

Table constructed from CAL-IPC invasive plant species listing of 2006: www.cal-ipc.org

G. Reporting

A Weed Detection Survey Report will be submitted to the regional BAER coordinator and the Mountaintop District Ranger. If weed introduction and spread has occurred, an interim BAER report will be completed to request eradication funding. Reporting costs are included in figures below.

H. Costs: Weed Detection Surveys for One Year =$3,995.00

Weed detection surveys to determine whether ground disturbing activities related to the Pinnacles Incident and the fire itself have resulted in the expansion of noxious weeds is requested for the first year. Estimated costs are based on the assumption that two visits would be necessary because of the differences in flowering times. If timing is such that all the target species are detectable in one visit, the actual costs would be lower than displayed below.

FY 2007

GS-12 botanist ($410/day x 0.5 day)	=$ 205.00
2-GS-09 botanists ($255/day x 7 days)	=$3,570.00
Vehicle mileage (400 miles @0.55/mile)	=$ 220.00
TOTAL for weed detection surveys for FY07	=$3,995.00

I. Personnel

SBNF staff will be used for surveys

J. Responsible Staff

Melody Lardner, Forest Botanist

K. Follow-up Actions

Design and implement follow-up treatments as needed. Plan for integrated weed management and NEPA analysis using non-BAER funding.

Appendix B

Pinnalces Fire
Land and Channel Treatment
Effectivenss Monitoring

The 2500-8 report requests funds to monitor the effectiveness of land and channel treatments. The land and channel treatments are designed to protect cultural sites from looting, damage from erosion, and cutting of streambank along Kinley Creek. They are also designed to help reduce sediment loads into Kinley Creek, onto State Highway 173.

1. Monitoring Questions
    a. Did armoring prevent streambank erosion?
    b. Were wattles overtopped with sediment?
    c. Were wattles and slash effective at trapping sediment?
    d. Did State Highway 173 receive increased amount of sediment below treatment area?
    e. Are there signs of looting? Are specific areas being targeted?
    f. Were the treatments tested according to the design storm?

2. Measurable Indicators
    a. Amount of sediment trapped behind slash and wattles
    b. Length of damage to soil and vegetation
    c. Amount of cutting into streambank
    d. Loss of artifacts from site

3. Data Collection Techniques
    a. Photo documentation of site
    b. Inspection Checklist (attached)
    c. Use of standardized heritage resource form for looting

4. Analysis, evaluation, and reporting techniques

    Due to the high resource values at risk the monitoring findings will be evaluated weekly. If the monitoring shows the treatment to be ineffective at reducing streambank cutting, soil erosion, and soil/vegetative damage, an interim report will be submitted. Emergency funding for land and channel treatments or other appropriate treatment may be required based on the monitoring findings. (Physical detection monitors)

5. Monitoring report timeframes

    The report will be evaluated weekly and if the treatment is effective, inspection checklist findings will be compiled monthly and summarized by the following:
    a. Amount of cutting into streambank
    b. Amount of gullying/rilling
    c. Amount of sprouting behind wattles/slash
    d. Looting characteristics

Land/Channel Inspection Checklist

Date:_____ Inspector_____
Time:_____

Describe locations reviewed during inspection:_____

Did sediment trapping occur behind wattles and slash? _____. If so at what location (GPS)_____

Is cutting occurring into the streambank? (GPS)_____

_____

If so identify by GPS the location and note on sketch map. _____

Heritage site review findings: Signs of looting _____Yes _____No?

Signs of Damage_____Yes_____No?

If so identify by GPS the location and note on sketch map. _____

Describe signs of soil/vegetative damage_____

Signs of damage to State Highway 173?_____

Location/photo description:_____

Photo point #_____

Description photo point?_____

Recommended repairs needed_____

Appendix C

Pinnacles Fire
Fence Effectiveness Monitoring

The 2500-8 report requests funds to monitor the effectiveness of fencing. The fencing is to restrict access to denuded landscape, and to protect cultural sites from looting and damage from off highway vehicle travel. This will also help reduce the spread of noxious weed invasive species, impacting native vegetative recovery.

6. Monitoring Questions
    a. Are the fences restricting vehicle access in to the burned area?
    b. Have the fences been cut or tampered with since it was constructed or previously maintained?
    c. Are there specific locations where the fences are being cut?
    d. Are there signs of cross country off highway vehicle travel? Are specific areas being targeted?
    e. Are there signs of looting? Are specific areas being targeted?
7. Measurable Indicators
    a. Number of times fence is repaired
    b. Length of damage to soil and vegetation
    c. Vehicle traffic signs
    d. Loss of artifacts from site

8. Data Collection Techniques
    a. Photo documentation of site
    b. Inspection Checklist (attached)
    c. Cars parked in parking area
    d. Use of standardized heritage resource form for looting

9. Analysis, evaluation, and reporting techniques

    Due to the high resource values at risk the monitoring findings will be evaluated weekly. If the monitoring shows the treatment to be ineffective at restricting vehicle access and soil/vegetative damage, an interim report will be submitted. Emergency funding for enforcement protection or other appropriate treatment may be required based on the monitoring findings. (Physical detection monitors)

10. Monitoring report timeframes

    The report will be evaluated weekly and if the treatment is effective, fence inspection checklist findings will be compiled monthly and summarized by the following:
    a. Number of fence breaks
    b. Number of times vehicle entry
    c. Location of fence breaks
    d. Destination of vehicle access
    e. Vegetative damage characteristics
    f. Looting characteristics
    g. Use of parking area

Fence Inspection Checklist

Date:_____ Inspector_____
Time:_____

Describe locations reviewed during inspection:_____

Was the fence cut? _____. If so at what location
(GPS)_____

Were there additional fence cuts? (GPS)_____

_____

Were there signs of vehicle entry to the area?_____
_____

Photo taken of vehicle tracks_____
Photo taken of fence break_____

Native vegetation review findings: Signs of damage, vehicle traffic, or other disturbance within burn_____Yes_____ No?

If so identify by GPS the location and note on sketch map. _____

Heritage site review findings: Signs of looting _____Yes _____No?

If so identify by GPS the location and note on sketch map. _____

Describe signs of soil/vegetative damage_____

Were there cars parked in or adjacent to the burn area.?_____

If yes, how many?_____

Photo taken of vehicles_____

Recommended repairs needed_____