

YOLLA BOLLY COMPLEX BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST



Vinegar Fire @ West Low Gap with hazard trees in backdrop

A. Type of Report

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

B. Type of Action

- 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
- 2. Interim Report #____.
 - Updating the initial funding request based on more accurate site data or design analysis
 - Status of accomplishments to date
- 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

- A. Fire Name:** Yolla Bolly Complex + Trough **B. Fire Number:** CA-MNF-2008-663 & CA-SHF-001041
- C. State:** CA **D. County:** Tehama, Trinity
- E. Region:** 05 Pacific Southwest **F. Forests:** 08 MNF / 14 SHF
- G. Districts:** Covelo, Grindstone / Yolla Bolly **H. Fire Incident Job Code:** 0508 P5D85T, 0514 P5D8HC
- I. Date Fire Started:** 21 Jun 2008 **J. Date Fire Contained:** 20 Aug 2008
- K. Suppression Cost:** \$**** as of 20 August 2008
- L. Fire Suppression Damages Repaired with Suppression Funds**
1. **Fireline waterbarred (miles):** 183 dozer / 35 hand
 2. **Fireline seeded (miles):** 0
 3. **Other (identify):** Road surface drainage restored to pre-fire function; safety zones
- M. Watershed Numbers:** 18 01 02 12 01 (South Fk Trinity); 18 01 01 04 01 (Upper Middle Fk Eel); 18 02 01 14 01 (Thomes); 18 02 01 53 04 (South Fk Cottonwood)
- N. Acres Burned:** 95,324
 NFS Acres (94,869) Other Federal (348) Private (107)

Acres Sum	Ownership			Total
	USFS	BLM	Private	
Trough	3,684	-	-	3,684
Vinegar	49,981	348	107	50,436
Grouse	7,583	-	-	7,583
Yellow	33,621	-	-	33,621
Total	94,869	348	107	95,324

- O. Vegetation Types:** Conifer, conifer-hardwood, brewer oak, chaparral, montane chaparral.
- P. Dominant Soils:** Sheetiron, Yolla Bolly, Tallac, Neuns, Deadwood, Goulding, and Hugo.
- Q. Geologic Types:** Franciscan and South Fork Schist
- R. Miles of Stream Channels by Order or Class:**

HUC5	Miles per Order				
	Total	1	2	3	4+
S Fk Trinity	34.7	21.3	7.1	5.3	1.0
S Fk Cottonwood	370.8	242.1	67.3	32.4	29.1
UMF Eel	351.2	209.6	68.6	34.4	38.5
Thomes	19.4	11.7	4.9	1.7	1.1

- S. Transportation System:** Trails: 251 miles Roads: 21.7 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Acres Sum		Soil Burn Severity				
Fire Name	Owner	Unb/VL	Low	Moderate	High	Total
Trough	USFS	864	1,302	1,286	232	3,684
Vinegar	USFS	12,840	25,129	10,775	1,238	49,981
	Other	35	102	287	31	455
Grouse	USFS	2,275	3,575	1,579	154	7,583
Yellow	USFS	11,831	13,375	6,018	2,398	33,621
Total	USFS	27,810	43,380	19,658	4,021	94,869
Total	Other	35	102	287	31	455
Grand Total		27,845	43,483	19,945	4,052	95,324
Percent		29%	46%	21%	4%	100%

B. Water-Repellent Soil (acres):

Water repellency is not present in significant continuous areas. Some low to moderate repellency was noted in scattered areas of high soil burn severity, but was generally very patchy and not typical of any particular soil types.

C. Soil Erosion Hazard Rating (acres):

Sum of Acres		Erosion Hazard Rating				
Fire Name	Ownership	L	M	H	VH	Total
Trough	USFS	-	2,265	1,419	-	3,684
Vinegar	USFS	77	31,496	14,518	3,890	49,981
	Other	6	235	214	-	455
Grouse	USFS	-	6,016	1,368	199	7,583
Yellow	USFS	233	21,233	6,315	5,841	33,621
Total	USFS	310	61,010	23,620	9,930	94,869
Total	Other	6	235	214	-	455
Grand Total		316	61,245	23,833	9,930	95,324

D. Erosion & Sediment Delivery Potential:

An average winter has the potential to produce **16** tons per acre of hillslope erosion, ranging from 8 to 24 across the fires as a whole. Erosion potential was modeled using FSWEPP-ERMIT.

FIRE_NAME	First Year Erosion Potential (tons/ac)		Second Year Erosion Potential (tons/ac)	
	2-Year Winter	10-Year Winter	2-Year Winter	10-Year Winter
Trough	18.67	46.67	10.49	34.38
Vinegar	15.62	51.86	7.65	36.32
Grouse	13.05	32.26	8.25	25.15
Yellow	13.14	42.62	7.18	30.79
Average	15.76	44.61	8.65	32.46

E. Sediment Potential: 1434 cubic yards / square mile

An average winter has the potential to produce **1434** cubic yards per square mile of sediment, ranging from 720 to 2150 across the fires as a whole. Hillslope erosion was determined to have a 19% chance of sediment delivery potential.

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 7
- B. Design Chance of Success, (percent): 95%
- C. Equivalent Design Recurrence Interval, (years): 2 yr
- D. Design Storm Duration, (hours): 6 hr

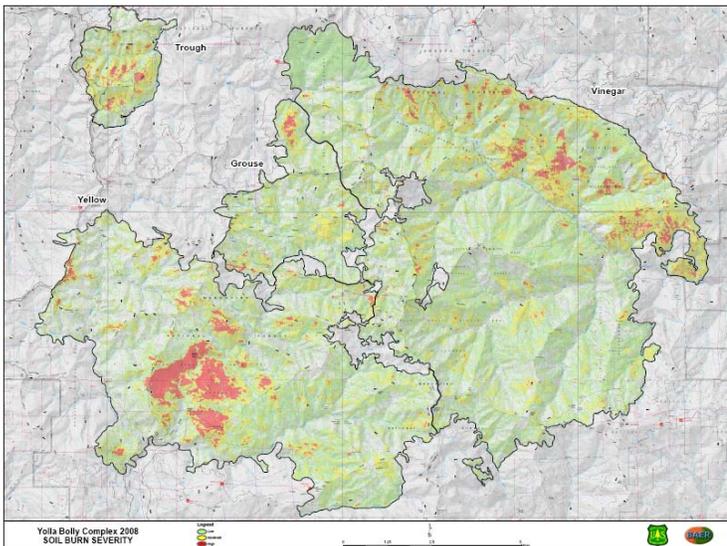
E - H. Design Storm Runoff Predictions:

HUC5	E. Design Storm Magnitude, (inches)	F. Design Flow, (cubic feet / second/ square mile)	G. Estimated Reduction in Infiltration, (percent)	H. Adjusted Design Flow, (cfs per square mile)
S Fk Trinity ¹	2.2	72	5	170
S Fk Cottonwood ²	2.2	46 (57)	6 (12)	49 (129)
UMF Eel ³	2.2	45 (52)	6 (11)	48 (59)
Thomes	Not calculated due to small burn acreage and low severity			

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative):

Background: The Yolla Bolly Complex fires burned 95,324 acres due to 5,000 lightning strikes that ignited 150 fires on June 21th in Tehama, Trinity, and Shasta Counties. The fires started on ridgelines and slowly backed down the ridges over time causing a mosaic burn. The Yolla Bolly Complex assessment area consisted of 94,869 acres of U.S. forestland, 348 acres of BLM and 107 acres of private lands. The Yolla Bolly Complex BAER assessment area includes the Trough, Grouse, Vinegar, and Yellow fires that occurred in Trinity and Tehama County.



¹ For the upper HUC6, which also includes Trough Fire.

² At Slides Creek, not including Slides Creek & (Long Gulch – Tomhead Gulch HUC7).

³ At Fern Point & (Middle Fk Middle Fk Eel HUC6, which contains Uhl HUC7)

Approximately 25% burned at high and moderate soil burn severity (see soil burn severity map above). The rest of the fires were either low or very low soil burn severity. General trends are forested areas that were north or east-facing slopes were nice mosaic under-burns. Forested areas that were south or west-facing slopes burned hotter and had tree mortality of 30-60% with ridges burning hotter (see pics below).



Vinegar Fire East-facing under-burn



Yellow Fire in Middle Eel with hot burned ridgetops

Chaparral areas that were north or east-facing slopes had moderate soil burn severity were patchy. Chaparral areas that were south and west-facing, burned moderately high to high soil burn severity removing almost all vegetation (see pics below).



Trough Fire East-facing mixed timber/brush



Vinegar Fire South-facing brush fields @ Syd Ridge

The Yolla Bolly Complex comprises several fires that burned primarily within the boundaries of the 147,000 acre Yolla Bolly Middle Eel Wilderness⁴. The Trough fire was part of the Lime Complex but due to its proximity next to the Yolla Bolly complex, it is being evaluated with this assessment. Four 5th-field watersheds were affected (Map 1, Appendix A). Overall, burn severities were predominantly low in timber types, and moderate to high in brush types. Most of the burned acreage occurred in Upper Middle Fork Eel River and South Fork Cottonwood Creek HUC5 watersheds. These two also have the three HUC7s with the most concentrated areas of moderate and high severity burns.

⁴ Suppression rehab of the Trough Fire, which burned on SHF outside of wilderness, was managed by the Yolla Bolly IMT after it was contained.

In view of the predominance of low severity, we expect there to be only a minor peak flow response, except at the HUC7 scale in those three with the most area of higher severity burn.

The predominance of low severity burn in most areas will minimize increases in surface erosion. Therefore, the sediment response is expected to be dominated by the release of channel-stored sediment due to burning-out of large woody debris in lower order channels. This will be a substantial pulse in the Eel, South Fork of the Trinity River and Cottonwood watersheds, as it represents the backlog of about a century's worth of missed fire-return intervals over about 590 miles of order 1 & 2 streams. There is no cost-effective way to mitigate this pulse.

HUC5-specific Narratives

South Fork Trinity

The Yolla Bolly fires burned about 3% of the South Fk Trinity HUC5 watershed in its uppermost HUC6. About 60% of one HUC7 was burned, at predominantly low severities. No flood threat exists within this HUC7.

Additional areas of the other two HUC7s in this HUC6 were burned by the Trough Fire at higher severities. Trough and Yolla Bolly fires together burned 36% of the HUC6, 12% at moderate to high severity. The reduction in infiltration for the design event is about 5%. There is no post-fire flood threat in this HUC6 resulting from the combined effects of the Yolla Bolly and Trough fires.

Sedimentation effects from the Yolla Bolly fires are expected to be minor, transient and localized during an average storm year. The sediment flux should be well within the natural range of variability, as about 40% of the burned area has burned in the last 20 years. These previous burns liberated backlog of stored channel sediments in those areas, the majority of which have subsequently been transported downstream from the HUC7. There will be some adverse effects on aquatic TESP species within or downstream of this HUC7 due to the burn severities on the Trough Fire and sediments that will be mobilized and moved into the South Fork.

South Fork Cottonwood

About 50% of the HUC5 burned, in the upper end of the watershed. Five HUC7s had greater than 90% of their area burned, but only one⁵ of those had more than 25% burned at moderate and high severity. For all five of these HUC7s, 16% of their combined areas burned at moderate and high severity. These five HUC7s comprise a single HUC6, and its reduction in infiltration for the design event is about 6%. More severe events have both a lower probability of occurring and lower reductions in infiltration. Taken together, these projections indicate there is no threat of a fire-induced flood issuing from the burned area. Therefore downstream values are not threatened by flooding.

Within the burn, the Long Gulch – Tomhead Gulch HUC7 (Map 3 Appendix A) has a 12% reduced infiltration for the design event. This indicates potential for channel disturbance to occur within the HUC7 because of burn-induced peak flow increases. This should be minor and transient.

The burn-induced sediment pulse from this HUC5 should be substantial, as noted under the *General* narrative above. Effects on aquatic habitat include increased turbidity, pool-filling and increased embeddedness of channel substrate. Effects will be most apparent in the higher order, lower gradient channels within and immediately downstream of the burned area.

Upper Middle Fork Eel

About 35% of the HUC5 burned, in the upper end of the watershed. Four HUC7s had greater than 90% of their area burned, and four others had between 45% and 66% burned. However, only one⁶ of those had more than 25% burned at moderate and high severity. These eight HUC7s comprise three HUC6s and are the headwaters of the UMF Eel above Fern Point. About 14% of their combined areas burned at moderate and high severity; the reduction in infiltration for the design event is about 6%. More severe events have both a lower probability of

⁵ Long Gulch – Tomhead Gulch (0102) – 29% moderate + high

⁶ Uhl (0103) – 41% moderate + high

occurring and lower reductions in infiltration. Taken together, these projections indicate there is no threat of a fire-induced flood issuing from the burned area. Therefore downstream values are not threatened by fire-induced flooding.

Within the burn, the Uhl HUC7 is the only area of concern. We assessed it's flood threat at the HUC6 level, as it has a 'butterfly' configuration and is the lowermost HUC7 within its HUC6 (Middle Fork Middle Fork Eel – Map 2 Appendix A). The reduction of infiltration for the design event is 11%. This indicates potential for channel disturbance to occur within the HUC7 because of burn-induced peak flow increases. This should be minor and transient.

The burn-induced sediment pulse from this watershed should be substantial, as noted under the *General* narrative above. Effects on aquatic habitat include increased turbidity, pool-filling and increased imbeddedness of channel substrate. Effects will be most apparent in the higher order, lower gradient channels within and immediately downstream of the burned area.

Thomes Creek

The Yolla Bolly fires burned about 2% of the Thomes Creek HUC5 watershed in its uppermost HUC6. About 23% of one HUC7 was burned, at predominantly low severities. No flood threat exists within this HUC7.

Sedimentation effects from the Yolla Bolly fires are expected to be minor, transient and localized. The sediment flux should be well within the natural range of variability, due to the low severity and small portion of the HUC7 that burned. There should be no significant adverse effects on aquatic species within or downstream of this HUC7. No TESP aquatic species are near enough downstream to experience any effects.

Values at Risk:

Aquatic Wilderness Values:

The post fire effects under the design event do not threaten any aquatic wilderness values.

Aquatic TESP Species:

Affected HUC5	Aquatic TESP Species Occurrence (P = Present; CH = Critical Habitat)				
	Federal T/E			FS Sensitive	
	Chinook Salmon	Coho Salmon	Steelhead	Yellow Legged Frog	Western Pond Turtle
S Fk Trinity	P	P, CH	P	P	
S Fk Cottonwood	P?		P, CH	P	P
UMF Eel			P, CH	P	P
Thomes				P	

TESP aquatic species will only be discussed in detail for the two watersheds which are expected to have noticeable effects on aquatic habitat: SF Cottonwood and UMF Eel. Both watersheds provide Critical Habitat for steelhead listed under the Endangered Species Act within the fire perimeter. Both watersheds have Critical Habitat which is expected to receive a strong sediment pulse.

The UMF Eel summer steelhead run has been found to be genetically distinct from all other steelhead within the Eel River and beyond. Approximately 2 miles of occupied critical habitat lie within a reach of the UMF Eel which burned at mod/high severity burn (Uhl HUC7). This is the reach where fish and habitat are expected to be most affected by sediment pulses.

Chinook salmon are documented to have occurred on the Forests in SF Cottonwood Creek in the past, and are found downstream of the Forests. However it's unclear if they still reach USFS system waters because no salmon surveys have occurred in recent decades.

The sediment pulses will likely have some effect on juvenile and adult fish and critical habitat in the short-term (the next few years). As stated earlier, effects on aquatic habitat include increased turbidity, pool-filling and increased embeddedness of channel substrate. This will likely lead to: lower biomass and diversity of aquatic insects; lowered production of juvenile steelhead; and some reduction of adult steelhead returning to the watersheds in the next 4 to 7 years. However this should not reduce the populations or alter the habitat in the long-term. The sediment pulses lie within the range of variability to be expected in these watersheds.

Threats to Roads (including user safety):

These threats are primarily focused on the effects of increased runoffs on road surfaces and road crossings. There are also threats to user safety caused by the fire. The specific threats include: 1) Concern of pipes plugging or overtopping and washing away fill; 2) Erosion at pipe and dip outlets with no energy dissipaters; 3) Stump holes in road bed and fill slopes; 4) Open cat lines and decommissioned roads that could suffer erosion and pose a safety concern if not closed; 5) Degradation of road surface drainage profile causing runoff to flow down the road; 6) Lower water demand from burned vegetation and increased flows will likely increase seepage onto road surface at existing spring when water table is recharged; 7) Berms and/or through cuts that channel water on road surface with inadequate drainage relief and erosion protection.

Threats to Wilderness Trails:

Mendocino National Forest Trails:

About 4.3 miles of two trails traverse some of the large areas of mod/high severity burn in Uhl HUC7 (Map 4). The existing system of waterbars is inadequate to protect the trail facilities or adjacent hillslopes from erosion damage under the design event: 1) capacity of some of the existing waterbars is not adequate to handle the increased runoff and sediment – some will breach and result in cascading failures; 2) the existing spacing is not adequate to disperse the increased runoff sufficiently to prevent tread erosion and hillslope erosion at waterbar outlets.

Shasta-Trinity National Forest Trails:

About 32 miles of trails within large areas of mod/high severity burn with increased anticipated flow are at risk erosion and failure. The existing system of waterbars and stream crossings are inadequate to protect the trail due to adjacent hillslopes that will suffering erosion damage under the design event: 1) capacity of some of the existing waterbars is not adequate to handle the increased runoff and sediment – some will breach and result in cascading failures; 2) the existing spacing is not adequate to disperse the increased runoff sufficiently to prevent tread erosion and hillslope erosion at waterbar outlets; 3) current stream crossings are inadequate to handle expected increased runoff from moderate to high soil burn severity areas; 4) trail treads with stump burnouts that are in proximity and connectivity to stream crossing are at jeopardy of piping and eroding the trail.

Potential New Noxious Weed Infestations (Mendocino and Shasta-Trinity N.F.):

It is unknown if suppression equipment was washed before being deployed to this fire. Noxious weed detection survey is therefore needed to detect any possible introduction of invasive plants by suppression actions, and to determine need for treatment beyond incidental removal. The survey would be needed at the beginning of 2009 growing season, prior to 1 year anniversary of fire.

Heritage Resources (Mendocino and Shasta-Trinity N.F.):

There is no need for BAER treatments to protect known arch sites from post fire damage. While some sites burned over, none burned hot and a few burned low-moderately.

Private Property: (Mendocino and Shasta-Trinity N.F.):

No private property is threatened by any flood source areas located on NFS lands.

B. Emergency Treatment Objectives (narrative):

Land Treatments:

Prevent ecosystem disruption and high costs of tardy eradication through early detection and eradication of any new infestations of noxious/invasive plants possibly introduced by suppression actions. The equipment came from all over the State and had potential to bring in a variety of noxious weeds. Ecosystem integrity is at risk of being diminished as a result of new weed introductions and weed spread.

Hillslope erosion was identified as a main contributor to threats to water quality and critical fish habitat but due to the lack of treatable areas, mulching was dropped as a treatment.

Road and Trail Treatments:

Improve road drainage to allow water passage and to protect roads within the Trough Fire area. Improve trail crossing drainage and prevent erosion of trails in down-slope areas.

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

Land 90% Channel NA% Roads/Trails 90% Protection/Safety 95%

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	95%	90%	85%
Channel	NA	NA	NA
Roads/Trails	95%	97%	99%
Protection/Safety	95%	90%	80%

E. Cost of No-Action (Including Loss): \$****

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

G. Skills Represented on Burned-Area Survey Team:

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

Team Leaders: Mike Van Dame (Mendocino N.F.) and Brad Rust (Shasta-Trinity N.F.)

Email: mvandame@...
Email: brust@...

Phone: 530.934.1141
Phone: 530.226.2427

FAX: 530.934.7384
FAX: 530.226.2485

H. Treatment Narrative:

Land Treatments:

Hillslope mulching was originally proposed as a treatment in the Trough Fire but due to the lack of treatable acres it was dropped. Natural recovery was selected due to: 1) predominance of slopes greater than 60% that burned moderately hot to hot; 2) steeper areas had very gravelly surfaces and lacked water repellency and were moderately deep; 3) hydrologic groups B and C with only moderate runoff ratings.

Potential New Noxious Weed Infestations (Mendocino and Shasta-Trinity N.F.):

Washing of suppression equipment was not initiated until seven weeks after the start of the fire. The extent of washing that was done is unclear. Noxious weed detection survey is therefore needed to detect any possible introduction of invasive plants by suppression actions, and to determine need for treatment beyond incidental removal. The survey would be needed at the beginning of 2009 growing season, prior to 1 year anniversary of fire. After the first year of surveys the need for future surveys will be assessed. A limited amount of seeding and mulching at selected sites is also recommended to diminish the risk of infestation. Conduct spring survey of suppression-disturbed areas to detect if any new infestations of invasive plants were introduced by suppression actions; determine need for treatment beyond incidental removal. Submit interim 2500-8 request, if treatment is needed, prior to 1 year anniversary of fire.

Noxious Weed Infestations Protection (Shasta-Trinity N.F.):

Reestablish a native plant community at highly disturbed sites by sowing native seed. Sow native seed at selected sites. These sites include safety zones and the first 100 feet of dozer lines starting where the dozer lines meet forest roads. Apply weed-free mulch over the seed.

To discourage noxious weed introduction on constructed dozer lines and the interior of fires, intersections of dozer lines and travelable roads should be seeded with native seed and mulched with weed-free straw. Seeding and mulching the first 100 feet of dozer lines where they meet travelable roads should discourage noxious weed introduction, which should discourage spread further down individual dozer lines.

Land Treatments	Units	Unit Cost	# of Units	BAER \$
Seeding Dozer Lines and Safety Zones	acres	****	5.5	\$****
Mulching Dozer Lines and Safety Zones	acres	****	5.5	\$****
Noxious Weed Detection Surveys on Dozer lines	acres	****	130	\$****
TOTAL ALL LINE ITEMS				\$****

Roads and Trail Treatments:

Road Storm-proofing (Shasta-Trinity National Forest – Trough Fire):

The roads generally run along the top of the ridges and there is not much concern with runoff issues effecting the roads, with the exception of the 27N27 road which runs through the middle of the Trough Fire. There are a few drainage crossings along road 27N27 that could be a concern and need to be addressed with critical dips, rolling dips, and rock disappators.

Road Treatments	Units	Unit Cost	# of Units	BAER \$
Storm Proofing (rocked critical and rolling dips, and rock dissipaters)	job	****	1	\$****
Strom Patrol (backhoe with operator and hazard tree removal for crew safety)	day	****	5	\$****
TOTAL ALL LINE ITEMS				\$****

Trail Storm-proofing (Mendocino National Forest):

Restore and improve trail drainage on about 4.3 miles of trail within large areas of mod/high severity burn in UH1 HUC7 on the Mendocino National Forest: 1) repair damaged/destroyed log waterbars; 2) improve other existing waterbars to handle expected increased runoff; 3) construct additional waterbars between existing ones to dispersed increased runoff. These trails are the Rock Cabin Trail (11W54), River Trail (11W05), and the Buck Ridge Trail (11W36).

Trail Storm-proofing (Shasta-Trinity National Forest):

Restore and improve trail drainage on about 32 miles of trails within large areas of mod/high severity burn with anticipated increased increased runoff flows on the Shasta-Trinity National Forest, Yolla Bolly Wilderness: 1) repair damaged/destroyed log waterbars; 2) improve other existing waterbars to handle expected increased runoff; 3) improve stream crossings to handle expected increased runoff; 4) construct additional waterbars between existing ones to disperse increased hillslope runoff; 5) repair trail treads with stump burnouts that have proximity and connectivity to stream crossing that are at jeopardy of piping and eroding the trail. These trails are the Humboldt Trail (9W36), South Fork Cottonwood Trail (9W39), Syd Cabin Trail (9W37), Chicago Camp Trail (10W39), Brooks Trail (10W40), and the Lazyman Butte Trail (9W40).

Cost to Do Trail Treatments	Units	Unit Cost	# of Units	BAER \$
CCC Trail Crews Spike (13 person crew for 8 days at 8hrs/day, food and supply costs are included)	spike	****	5	\$****
Hazard Tree Removal for Crew Safety (fallers and blasters plus explosives are included)	mile	****	32	\$****
Packing Costs (5 locations for the 5 spike camps)	spike	****	5	\$****
TOTAL ALL LINE ITEMS				\$****

Protection and Safety Treatments:

Closure, Safety, and Warning Signs (Shasta-Trinity National Forest):

Until trail work can be completed and the first winter is passed the wilderness must remained closed for public safety. Closure signs and burn area signs need to be posted to insure the public is aware of the fire emergency and closure.

Burned traffic signs and road signs that were burned need to be replaced for public safety.

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.)

See Appendix B below for road and trail monitoring.

Accomplishments

Land Treatments:

- Completed all noxious weed treatments of seeding and mulching firelines intersecting main roads throughout all fires in the Yolla Bolly Complex area on the Shasta-Trinity side of the forest.



Road & Trail Treatments:

- Yolla Bolly Complex stormproofing consisting of constructing critical dips, cleaning of culverts, and rock dissipaters completed on Dec. 2008 (2 miles).



- Yolla Bolly Wilderness trail treatments and trail crossing treatments (32 miles).



Protection & Safety Treatments:

- Berms and signing for all sensitive and hazardous areas at strategic areas completed in early winter 08.



Monitoring Treatment Effectiveness:

- Monitoring treatment effectiveness for helimulching treatments and fire effects (see attached monitoring report).

1) 2008 WildernessTrail Treatment Effectiveness Monitoring Report - 2009

Maps: Treatment Map

