Date of Report: **10/26/2006**

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: **Ulm Peak**

B. Fire Number: **ID—IPF—0001042**

C. State: **Idaho & Montana**

D. County: **Shoshone, ID & Sanders, MT**

E. Region: **1**

F. Forest: **Idaho Panhandle NFs & Kootenai NF**

G. District: **Coeur d'Alene River RD & Cabinet RD**

H. Fire Incident Job Code: **P1C4L7**

I. Date Fire Started: **08/18/2006**

J. Date Fire Contained: **10/13/2006**

K. Suppression Cost: **$4,500,000**

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): **22½**
2. Fireline seeded (miles): **11**
3. Other (identify): **approx 4.5 miles road rehab, 8 acres drop point/landing rehab**

M. Watershed Number: **1701030106 & 1701021310, 1701021313**

N. Total Acres Burned:
NFS Acres(**4,985**) Other Federal ( ) State ( ) Private ( )

O. Vegetation Types:

Habitat Types (***Potential*** Natural Vegetation):

- Sub-alpine types, including mountain hemlock; primarily near on on ridges.
- Moist end of the cedar-hemlock types in the sub-watersheds on the west side of the Bitterroot Divide.

Habitat Types (***Potential*** Natural Vegetation – bio-physical site characteristics):

- 3% dry forest habitat types (primarily dry grand fir with some Douglas-fir series);
- 29% moist forest habitat types (hemlock, and moist grand fir series)
- 55% lower subalpine habitat type (mixture of mountain hemlock and subalpine fir series – below elevations with potential for whitebark pine);
- 12% upper subalpine habitat type (mixture of mountain hemlock and subalpine fir series – upper elevations where whitebark pine has potential to be a major component);
- 1% rocky / shallow-soil /cliffs non-forest habitat types.

Pre-Fire ***Existing*** Vegetation:

- moist western red cedar (*Thuja plicata*), grand fir (*Abies grandis*), and western hemlock (*Tsuga heterophylla*) forest types;
- subalpine fir (*Abies lasiocarpa*) / Engelmann spruce (*Picea engelmannii*), and lodgepole (*Pinus contorta*) pine forests;
- non-forest dry site shrub fields.

Pre-Fire ***Existing*** Forest Cover Types:

- 4% non-forest talus slopes, and shrub and grass/forb openings;
- 27% Douglas-fir (*Pseudotsuga menziesii*) forest types. Most of these drier forest types were on south and west facing slopes at lower elevations within the fire:
  - Includes 7 acres of ponderosa pine (*Pinus ponderosa*) forest types at the very lowest elevation, dry aspects on the Coeur d'Alene side.;
- 20% moist western hemlock (*Tsuga heterophylla*) and moist grand fir (*Abies grandis*) forest types – mostly at lower elevations and moist aspects within the fire;
- 19% subalpine fir (*Abies lasiocarpa*) forests;
- 26% mountain hemlock (*Tsuga mertensiana*) forests;
- 3% lodgepole pine (young stands in subalpine fir & mountain hemlock habitat types).

Pre-Fire ***Existing*** Forest Size/Age Classes:

- 4% non-forest (talus slopes, and shrub and grass/forb openings);
- 7% seedling / sapling / small pole sized stands;
- 30% immature sawtimber (stands less than 100 years old);
- 15% mature sawtimber (stands more than 100 years old, but not old growth);
- 44% old growth (stands with a specified number of large trees over 150 years old).

P. Dominant Soils: **Andic Dystrudepts, Andic Crystocrepts near ridges.**

Q. Geologic Types: **Weakly weathered argilites, quartzites, and siltites of the Belt Supergroup.**

R. Miles of Stream Channels by Order or Class: **1st order: 9 miles; 2nd order: 2 miles**

S. Transportation System

Trails: **2** miles Roads: **8** miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): **2505** (low) **1488** (moderate) **161** (high)

B. Water-Repellent Soil (acres): **<100**

C. Soil Erosion Hazard Rating (acres):
2505 (low) **1488** (moderate) **161** (high)

D. Erosion Potential: **0.1** tons/acre

E. Sediment Potential: **90** cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): **20**

B. Design Chance of Success, (percent): **80**

C. Equivalent Design Recurrence Interval, (years): **2**

D. Design Storm Duration, (hours): **24**

E. Design Storm Magnitude, (inches): **2.2**

F. Design Flow, (cubic feet / second/ square mile): **87**

G. Estimated Reduction in Infiltration, (percent): **12**

H. Adjusted Design Flow, (cfs per square mile): **n/a**

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Threats to Public Health and Safety:

- **Watershed, water supply, and water quality —** Three sub-watershed systems are involved in the fire: Shoshone Creek, a tributary to the North Fork Coeur d'Alene River; East Fork Elk Creek; and South Branch Marten Creek. The latter two are tributary to the lower Clark Fork River in Montana. All three contain 303(d)-listed segments for sediment. Related threats are to temporarlily reduced water qualtiy, primarily from increased sediment loadaing, temporary loss of habitat or displacement of aquatic organisms from potential debris flows. No direct soruces of domestic water supply are involved.

- **Soils and Soil Productivity —**

- **Surface Erosion** – Post-fire soil erosion rates are expected to be less than five tons per acre per year in high burn severity areas, and approximately 1½ tons per acre per year in the moderate burn severity areas. These rates are within the natural range of variability and are not a threat to soil productivity. However, these erosion rates can have a negative effect on water quality.

- **Mass Movement** – There are small isolated areas within the burned area that may have the potential for mass movement, which could lead to loss of soil productivity at the site scale.

  Very little can be done to effectively mitigate this type of mass movement; therefore, no treatments are planned to mitigate mass movement in these areas.

Threats to T&E Habitats:

- **Bull trout** – North Fork Coeur d'Alene River is a potential recovery area because of historic bull trout populations. Clark Fork tributaries contain bull trout habitat.

- **Grizzly bear**– The fire burned within the boundaries of the Bear Management Unit (BMU) on the Montana side.

- All tributaries are important cold water refugia of West Slope cutthroat.

Threats to Ecological Integrity/Site Productivity:

- **Invasive weeds** – Invasive weeds can rapidly become established on disturbed sites, outcompeting native vegetation and decreasing biodiversity. Dispersed populations of several noxious weeds and weed species of concern are scattered along the road systems associated with the fire. These weeds include:

  - spotted knapweed (*Centaurea stoebe ssp. micranthos*);
  - Canada thistle (*Cirsium arvense*);
  - yellow hawkweed (*Hieracium pratense*);
  - orange hawkweed (*Hieracium aurantiacum*).
  - oxeye daisy (Leucanthemum vulgare);
  - common tansy (*Tanacetum vulgare*);
  - goatweed (*Hypericum perforatum*);
  - common mullein (*Verbascum thapsis*).

  The first six species listed are perennial members of the sunflower, or Compositae family, and reproduce by abundant seed. Hawkweeds can reproduce by seed and also have underground stems or stolons that can increase, vegetatively, in disturbed soil. Goatweed is a woody-stemmed perennial that reproduces by seed that can remain in a soil "seedbank" for many years, germinating after a wildfire to recolonize an area. Common mullein is similar to goatweed in that its seeds remain in a soil "seedbank" until a disturbance. This species is a biennial adapted to a wide variety of site conditions and is highly competitive with native vegetation.

  Some new invading weed species are present in the Coeur d'Alene and Clark Fork sub-basins, and at risk of spreading along roads into the burned area. New invader weed species of concern include:

- blueweed (*Echium vulgare*)
- tansy ragwort (*Senecio jacobaea*)
- leafy spurge (*Euphorbia esula*)
- musk thistle (*Carduus nutans*)
- rush skeletonweed (*Chondrilla juncea*)

New invader weed species are considered a high priority for treatment according to the Forest Service Strategy for Noxious and Nonnative Invasive Plant Management. Control and containment of noxious weeds is emphasized in special areas such as Research Natural Areas (RNA's), including the use of herbicides as appropriate. Preventing weed establishment and spread in areas that are essentially weed-free is an especially high priority, and is much less expensive than treating weed infestations over a period of several years.

Values at Risk

Noxious and invasive weeds were documented to be present on most of the roads associated with the fire. There is a high likelihood that these noxious and invasive weed populations will expand in the post-fire environment, primarily along roads and firelines. Emergency weed control measures need to be taken to prevent the establishment of new weed populations in the burned area, with an emphasis on protecting the unique ecological processes and values of the RNA's. Large areas of soil disturbance were created by fire suppression efforts with fireline construction, road blading, widening and turnout construction. In moderate to high fire severity areas, significant amounts of understory and overstory vegetation cover were removed leaving a much different environment than existed prior to the fire. Most noxious weeds compete best in sunny conditions and easily out-compete native plants in the presence of disturbed soil. Weed infestations may delay the recovery of native vegetation in the area if not promptly treated after a disturbance.

The Upper Shoshone and Ulm Peak RNA's are bordered by roads that were used in the fire and a substantial portion (53%) of the RNA's was contained within the fire perimeter. Although rehabilitation efforts are being undertaken to protect and stabilize areas disturbed during the fire, certain measures such as grass seeding are not being implemented within the RNA's in order to maintain the ecological integrity of these areas. It is hoped that native vegetation will recover naturally without seeding efforts, but this may leave disturbed soils even more vulnerable to weed infestation unless emergency measures are taken to control nearby weed populations.

Vegetation in the burned area consists mainly of cold and moist to moderately dry habitat types with a mountain hemlock cover type, and cool and moist habitat types with a western hemlock cover type. Some Subalpine-fir habitat types are also present. These moist cover types are not considered to be as highly susceptible to weed invasion as drier, warmer types such as ponderosa pine, Douglas-fir and grasslands, however there are a few species that can aggressively invade disturbed soils in such cover types. Oxeye daisy (*Leucanthemum vulgare*), Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), and bull thistle (*Cirsium vulgare*), are considered to be highly successful invaders in cool, moist alpine to subalpine cover types. Hawkweeds (*Hieracium spp.*) are also quite competitive in cool, moist habitats. Spotted knapweed (*Centaurea stoebe ssp. micranthos*), common tansy (*Tanacetum vulgare*), goatweed (*Hypericum perforatum*), and common mullein (*Verbascum thapsis*) are present on roads in the lower (below 4,500 feet) elevations of the fire and are at risk of spreading into bare soils created by the fire and fire suppression.

The burn pattern of the Ulm Peak fire is a mixed severity fire, in terms of effects to vegetation, with predominantly low to moderate severities represented, and a relatively small percentage classified as high severity. Before the fire, the exisiting cover types would have provided shaded conditions with understory shrubs, forbs, and grasses such as: huckleberry (*Vaccinium spp.*), fool's huckleberry (*Menziesia ferruginea*), beargrass (*Xerophyllum tenax*), green alder (*Alnus viridis*), rocky mountain maple (*Acer glabrum*), and pinegrass providing additional vegetation cover. Rapid re-sprouting of plants such as beargrass (*Xerophyllum tenax*) and huckleberry (*Vaccinium spp.*) can provide significant cover the year following a fire in areas of low to moderate severity burn. Areas of moderate to high severity vegetation impacts will likely recover much more slowly, with much less re-sprouting of the remaining plants. The intensity of soil disturbance and amount of increased light due to canopy cover loss directly influences the ability of certain weed species to invade an area and out-compete native vegetation. Re-sprouting of perennial weeds from root crowns and germination of seeds from a soil "see bank" are other means by which weeds may invade burned areas.

Weed infestation was observed to be low on roads above 4,500 feet elevation, except on warm, sunny southern to western exposures with poor soil, such as on roadcuts. Vehicles are the primary cause of weed spread, and the degree of weed spread is generally related to the amount of vehicle traffic on the road and the verge width. Several open Forest Service System roads border the fire or lead in to it from the KNF and the IPNF. Disturbed soils on these roads and dozer lines are most prone to weed invasion. Weeds may spread along roads and trails into high priority, previously uninfested areas, including the RNA's.

Threats to Ecological Integrity/Important Natural Resources

- **Research Natural Areas (RNA's)**

  This fire is unusual for including substantial parts of two Research Natural Areas within the burn perimeter. The Forest Service Manual explains Research Natural Areas, as follows:

  "Research natural areas are part of a national network of ecological areas designated in perpetuity for research and education and/or to maintain biological diversity on National Forest System lands. Research natural areas are for nonmanipulative research, observation, and study. . . .

  The objectives of establishing research natural areas are to:

  1. Preserve a wide spectrum of pristine representative areas that typify important . . . natural situations that have special or unique characteristics of scientific interest and importance . . .

  4. Serve as reference areas for the study of succession. . . .

  6. Serve as baseline areas for measuring long-term ecological changes.

  7. Serve as control areas for comparing results from manipulative research. . . .

  <u>Policy</u>. Research Natural Areas may be used only for research, study, observation, monitoring, and those educational activities that maintain unmodified conditions.

  ... natural conditions are maintained . . . by allowing natural physical and biological processes to prevail without human intervention.
  . . . . .

  <u>Protection and Management Standards</u>. . . . .

1. Protect research natural areas against activities that directly or indirectly modify ecological processes. The prime consideration in managing research natural areas is maintenance of unmodified conditions and natural processes. . . .

5. Prohibit any form of recreational use if such use threatens or interferes with the objectives or purposes for which the research natural area is established.

6. Where special orders are needed to limit, restrict, or control specific activities such as camping, seasons of use, or other uses, that are not compatible with the objectives of the research natural area, the Forest Supervisor shall issue orders pursuant to 36 CFR Part 261, Subpart B, to protect an area's features."

Across the entire National Forest system in the United States, there are only about 300 Research Natural Areas (RNA's). They encompass much less than 1% of National Forest lands. RNA's represent an important sample of the most outstanding and pristine federal lands valuable for baseline scientific research.

Two of these Research Natural Areas are partially within the perimeter of this fire. The **Upper Shoshone RNA** (on the Idaho Panhandle National Forest) encompasses 1,309 total acres, and 70% of it (910 acres) is within the burn. The adjacent **Ulm Peak RNA** (on the Kootenai National Forest) encompasses 685 total acres, and 21% of it (147 acres) is within the burn. These two RNA's share some area of common boundary along the Bitterroot divide (which is also the Idaho/Montana state line) within the burn. Together, 53% of these RNA's are within the fire perimeter, so the fire impact is substantial.

"Fire severity" measures the impacts of the fire upon the resources. In terms of forest vegetation, fire severity measures the impacts of the fire on the vegetation. Fire severity in terms of vegetation is related to, but <u>not</u> always synonymous with *burn severity* in terms of impacts on the soil. In forests, mixed severity fires usually produce a mosaic of live green and burned dead overstory tree canopy, but substantially opens up understory vegetation. High severity fire (from a vegetation perspective) kills the overwhelming majority of the forest overstory canopy, and largely eliminates above ground understory vegetation. Low severity fire may either produce a mosaic in the understory vegetation, or remove the majority of the above ground understory vegetation, but produces only minor overstory canopy mortality.

The fire did not destroy the value of these areas as RNA's. The majority of this fire (both overall and within the RNA's) -- in terms of impacts on the vegetation -- was a mixed severity fire. However, there are some smaller areas of both high severity fire and low severity fire. (Some of that high severity fire is along the state-line road on the Bitterroot Divide, within the RNA.) In some ways, the fire probably enhanced the value of these areas for baseline research. Because it was mostly a mixed severity fire within the RNA, the critical natural features of the RNA are still present in a spatially divverse mosaic, and the post-fire period provides a scientific opportunity to observe natural recovery and forest succession following a largely natural wildfire. However, to meet the objectives of the RNA, it's critical that this post fire recovery and succession proceeds without human interference.

Approximately 80% of these two RNA's are mountain hemlock and subalpine fir habitat types, and 51% of the RNA area is old growth forest. 85% of the burn area within the RNA's is within these mountain hemlock /subalpine fir habitat types. 59% of the burn area within the RNA's was in old growth forest. Most of the old growth within the mountain hemlock habitat types, is old growth mountain hemlock forest, and a substantial part of this old growth mountain hemlock forest in the RNA's is within the burn perimeter, and was subject to mixed severity fire.

The single most important featured element of these RNA's is the extensive area of high quality old growth mountain hemlock forest. These RNA's include some of the largest extent high quality old growth mountain hemlock in the Northern Rocky Mountains. This is also the single largest old growth mountain hemlock area on the northern and eastern extent of the range of mountain hemlock in the U.S. Northern Rocky Mountains, and this was one of major the reasons why these RNA's were established. These fires provide an unprecedented scientific opportunity to observe and document forest succession -- without any human interference -- in old growth mountain hemlock forests. Scientists from the Moscow Forestry Sciences Laboratory have already done a preliminary survey of the burned parts of the RNA, and are planning to establish plots.

Within these RNA's, one of the most outstanding areas of old growth mountain hemlock forest is along the state line road (Forest Service Road # 430, which runs along the boundary of the RNA's, and between where the two RNA's share a common boundary, on the Bitterroot Divide). This road provides the major part of the public access to these RNA's. Through the old growth parts of the RNA, much of the ground adjacent to the road is virtually flat, or has gentle grades. However, up to now, there has been little to no human impact on the RNA within this area because the understory small trees and shrubs were so dense, and large down logs were so common that they discourage human access. The mixed severity fire in this area along the road has substantially opened up the understory, removing small trees and shrubs, and burning out the down large logs and woody concentrations that blocked human access. The forest understory here is more open than it has been at any time since the state-line road was built.

The upper Coeur d'Alene River and Bitterroot Divide area of these two National Forests is a very popular area for hunting. Where there is gentle ground adjacent to roads, large well-established dispersed hunting camps are common, and many of these have substantial impact on their immediate surroundings, year after year. In recent years, gentle slopes adjacent to roads have also provided access for all-terrain vehicles, and these are having substantial negative impact of forest vegetation and soils. Dispersed hunting camps and off-road vehicle use have not been an issue in these RNA's up to now, because the dense vegetation and large down logs discouraged these uses. However, the fire has opened up the understory so substantially that these barriers are no longer functioning.

There is an emergency threat to the integrity of these RNA areas, because these type of uses (dispersed camping and off-road ATV use) would have substantial negative impacts on the purposes of the RNA's. These uses would have the greatest impacts in the immediate post-fire period, which is critical to how post-fire recovery and succession proceeds. It's important to avoid human interference during this immediate post-fire period in order to meet the long term objectives of the RNA's. This immediate post-fire period, before the vegetation has any opportunity to re-grow, is when these types of uses are most likely to become established, and when they would have their greatest impact. Once these types of uses become established, they are very difficult to eliminate.

A closure order to dispersed camping and off-road vehicle use within the RNA's would be appropriate to protect the RNA's from these potentially negative impacts, and is fully consistent with Forest Service Manual direction for RNA's (as outlined above). However, currently the RNA boundaries are not shown on Forest Service public maps, and are not marked on the ground in any way. In order for a closure order to be effective, and in order to discourage these damaging uses, the public needs to be able to reasonably identify the RNA boundaries.

To make it possible to protect the RNA's in this emergency situation from these potentially damaging uses, we will purchase RNA boundary signs and post the RNA boundary along the

state-line access road within the fire, and along a similar short segment of road (FR 149) through a burned portion of the Ulm Peak RNA, on the Kootenai National Forest just off the divide.

Threats to Transportation Infrastructure:

No roads or trails within or below the fire are structurally threatened, although some increased maintenance may be required over the next few years.

- **Stream Crossings** – The stream crossings with substantial high and moderate burn severity above them are not adequately sized for expected water, sediment, and organic debris loading. There is evidence of past debris flow events in Ulm Creek possibly other tribuaries on the west side of the Bitterroot Divide. If a crossing does not have adequate capacity it may fail by:

    - Saturating the pipe, causing catastrophic failure;
    - Overtopping, leading to gullying and failure or partial collapse; or
    - Capturing the down grade ditch, causing catastrophic fill failure where ditch capacity is lost by volume or deposition.

A. Emergency Treatment Objectives:

- Prevent entrainment of fill material and debris into streams at certain crossing sites where existing structures are not adequate to safely pass flood flows and related water volumes, sediment, and debris flows.

- Take actions that prevent or control new or rapid expanccsion of noxious plants into the local ecosystems, and the two RNAs that were directly involved with the fire.

The management objectives of this plan are the early detection and treatment of weed infestations on priority roads, dozer lines, and hand lines associated with the fire, and follow-up monitoring to assess effectiveness of the treatments and possible future needs. Priority roads/ dozer lines for weed treatment are identified in Appendix A – "Ulm Peak BAER – Weed Treatment Costs".

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Weed treatments & monitoring	90	90	90
Channel			
Entrainment of through fills at road crossings	90	95	99
Roads/Trails			
Protection/Safety			

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

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

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

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H. **Treatment Narratives:**

(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:

Actions Implemented During Fire Suppression to Prevent Weed Introduction and Spread

Weed washing equipment was in place and operating on the Ulm Peak Fire beginning from August 21 through September 3, 2006. All non-local and ground-based equipment was cleaned of soil, plant particles, seeds and debris on check-in and demobilization. Disturbed soils (exclusive of the RNA's) resulting from fire suppression efforts were seeded with appropriate seed mixes to reduce weed invasion. The fire rehabilitation plan provided funds for herbicide treatment of all roads and dozer lines associated with the fire. Only one road (FS #412) was herbicide treated under the rehabilitation plan because of unsuitable fall spraying conditions.

Prescription and Cost Estimate

Effective control of a weed infestation usually includes annual treatment for a three to five year period. This prescription covers only the first year following the fire. If additional monitoring or treatment is warranted, application must be made for additional funding.

The prescription was designed to treat the emergency resulting from the fire and the risk of known weed populations spreading into uninfested portions of the fire and the RNA's. Infestations should be mapped and treated at the optimal time for the species. For most weeds this is from the rosette to early bud stage. Manual weed treatment should be undertaken if the detected weed infestation is small. Plants may be grubbed out with a pulaski or shovel, bagged and removed from site for proper disposal. Larger infestations will require herbicide treatment. The preferred method is hand spraying with an approved, selective, broadleaf herbicide applied with a backpack sprayer or hand-gun from a truck mounted sprayer or ATV spray unit. Broadcast, or "boom spraying" is the least desirable treatment method, but may be necessary if infestation levels are high. Picloram is not to be used to avoid effects to existing conifers, and other native vegetation.

Herbicide costs for IPNF roads and dozer lines were covered under the Ulm Peak Fire Suppression Rehabilitation Plan, so herbicide costs for the IPNF are not being requested in this assessment. Costs for KNF herbicides is included, as this was not an item already covered by the rehabilitation plan. Due to unusually dry conditions, is was not feasible to treat target weed species on most roads associated with the fire in the fall of 2006, so it is requested that BAER provide emergency funds for the labor, and a portion of the herbicide costs, needed to treat weeds on designated roads in this plan in FY 2007.

Specific road treatment costs are outlined in the Appendix A, "Ulm Peak BAER – Weed Treatment Costs".

Herbicide Treatment, mapping and data entry

For FS Road #992 and portions of the #2273, #430, #149 road, and the indirect dozer line bordering the Upper Shoshone RNA. (16.3 miles)

Herbicides and labor $6,169.50

Post Treatment Monitoring, documentation and data entry

4 days GS-7 @ $250/Day = $1,000.00

Total request –treatment and post-treatment monitoring: $7,169.50

Channel Treatments:

Investigations show a substantial threat at three road crossings within the sub-watersheds involved in the fire.

Emergency BAER needs on the Montana side of the Ulm Peak fire include a single culvert removal at the end of the FDR 2215 road within the Saddle Creek drainage. The location of the restoration site is within the Southwest portion of section 36 T25N R34W. Removal of this CMP and partial recontouring of this draw will cost approximately $2000.00. That amount will cover the time for a fully operated excavator to complete the work. This work will be accomplished with onging suppression rehabilitation efforts to save on equipment costs.

Similar treatments will be made on the Ulm Creek and RNA Creek crossings at the rate of $2,500 each.

Roads and Trail Treatments:
None.

Protection/Safety Treatments:
None.

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.)

Visual inspection will be performed approximately 14 days following treatment and (at a minimum) the following data recorded:

- Examiner
- Evaluation Date
- Target Species
- Percent Control Efficacy
- Plant Distribution
- Canopy Cover
- Population Age Structure

If treatments do not achieve the desired effectiveness, follow-up treatment will be considered.

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

Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
Road #992 weeds	ac	9.72	100	$972	$0		$0		$0	$972
Road #430 weeds	ac	16.2	100	$1,620	$0					$1,620
Road #149 weeds	ac	5.1	150	$765	$0		$0		$0	$765
Road #2273 weeds	ac	13.5	150	$2,025	$0					$2,025
dozerline along RNA	ac	4.5	175	$788	$0		$0		$0	$788
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$6,170	$0		$0		$0	$6,170
B. Channel Treatments										
remove culvert barriers on Ulm & RNA Creeks	sites	2500	2	$5,000	$0		$0		$0	$5,000
remove culvert barriers on upper Saddle Creek	sites	2000	1	$2,000	$0		$0		$0	$2,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$7,000	$0		$0		$0	$7,000
C. Road and Trails										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
fixed-wing recon	flights	1250	1	$0	1250					$1,250
team members & support	person days	250	22	$0	$5,500		$0		$0	$5,500
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$5,500		$0		$0	$6,750
F. Monitoring										
Post-treatment weeds mo	days	4	250	$1,000	$0		$0		$0	$1,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$1,000	$0		$0		$0	$1,000
G. Totals				$14,170	$5,500		**$0**		**$0**	**$20,920**
Previously approved										
Total for this request				**$14,170**						

PART VII - APPROVALS

1. **/s/Susan Skalski** **10/27/2006**
Forest Supervisor,
Idaho Panhandle National Forests Date

2. **/s/Paul Bradford** **10/27/2006**
Forest Supervisor,
Kootenai National Forests Date

2. _____ _____
Regional Forester (signature) Date

APPENDIX A
ULM PEAK FIRE NOXIOUS WEED
TREATMENT

ROAD #	FOREST	MILEAGE	ACRES	METHOD	HERBICIDE COST/AC	LABOR COST/AC	TOTAL
#992 - Jct. #412 to Jct. 430	IPNF	3.24	9.72	TRUCK	n/a	100	$ 972.00
#430 - Jct. 992 to Eighty Peak	IPNF	5.4	16.2	TRUCK	n/a	100	$ 1,620.00
#149 - Jct. 430 to Jct. #2205 (dozered road)	KNF	1.7	5.1	TRUCK	50	100	$ 765.00
#2273 - Jct #430 to Main stem Elk Creek	KNF	4.5	13.5	TRUCK	50	100	$ 2,025.00
Indirect dozerline from Rd. #412 - #430 along RNA	IPNF	1.5	4.5	HAND	n/a	175	$ 787.50
TOTAL		**16.34**	**49.02**				**$ 6,169.50**

Appendix B. Ulm Peak Soils & Geology

The fire is located along the Bitterroot Range divide in northeastern Idaho extending into Montana. Soils are underlain by argillite, siltite, and quartzite of the Precambrian Belt supergroup, primarily the upper member of the Wallace formation on the IPNF side and the Striped Peak formation along the ridgeline and into Montana.

The country along the Bitterroot divide in this part of the Coeur d'Alene Ranger District has been shaped by uplift and rapid downcutting along fault lines and major drainages. Most of the pre-existing highly weathered soils eroded off, exposing fresh parent material which is partially weathered to non-weathered. The highly dissected drainage pattern of the pre-uplift was retained and contains live streams while the upper portion of those dissections remain dry and without discernible stream channels.

The landforms consist of ridges, mountain sideslopes, rock outcrops, stream breaklands, and stream bottoms of weakly to moderately incised drainages. East of the divide, glaciated mountain ridges and slopes, cirque headwalls, and moraines dominate the landscape. Elevations range from ~3600 feet in the drainages to 6500 feet along the ridgeline; slopes vary from 25 to 80 percent.

Soils in the Ulm Peak Fire have been mapped by Forest Service and Natural Resource Conservation Service (NRCS) and are described in the Soil Survey for the IPNF (USDA 1999) and Kootenai National Forest (USDA 1995). There are 34 map units within the fire area. West of the ridgeline, typic Haplocryands, Vitrixerands, and Udivitrands dominate; to the east, andic Cryochrepts cover the alpine ridges.

Generally, soils are weakly weathered well drained silt loams to sandy silt loams derived from volcanic ash influenced loess. Soil depth can increase at lower elevations (up to 30 inches), especially on north-facing aspects and in drainages, but otherwise is often shallow over protruding bedrock. Rock fragment content is variable but commonly high and increases with depth.

Under undisturbed conditions, soils within the fire perimeter are fairly stable with high amounts of rock fragments in the soil profile armoring against erosion and the volcanic ash providing a high water holding capacity. Increased erosion and failures are usually associated with stream breaklands and the road network.

Burn Severity was estimated for each of the affected tribuaries:

Watershed		Burn Severity within Watershed			
tributary name	Area (mi^3)	High	Mod	Low	none
Lower Shoshone Creek	1.8	0.1%	4.6%	2.8%	95%
Rampike Creek	3.5	0.7%	11%	4.7%	88%
Clinton Creek	4.5	0.8%	14%	4.4%	85%
Lower Ulm Creek	1.2	0.0%	2.3%	2.9%	98%
Upper Ulm Creek	1.4	5.9%	42%	21%	52%
Tent Creek	0.17	3.3%	48%	23%	49%
RNA Creek	2.0	0.3%	5.5%	13%	94%
Upper Shoshone Creek	0.93	0.0%	0.0%	0.0%	100%
Elk Creek	1.6	0.0%	0.7%	1.4%	99%
North Branch Marten Creek	0.85	0.7%	14%	13%	86%
Saddle Creek blw Upper Saddle Creek	0.66	5.2%	29%	11%	66%
South Branch Tributary	0.87	0.4%	2.4%	2.8%	97%
South Fork Saddle Creek	0.33	0.0%	7.7%	3.2%	92%
NF Saddle Creek	0.79	11.1%	29%	10.6%	60%
Upper Saddle Creek	0.41	42%	33%	6.1%	25%
Burned Areas Outside Delineated Watersheds	0.10	0.0%	6.9%	7.4%	93%
Grand Total	20.1	1.3%	12%	6.5%	87%

Appendix D. Watershed Hydrology Summaries.

Stream Stats Summary and
Associated Culvert Sizes

	Saddle south	NF Saddle Ck	Upper Saddle	South Branch Trib	North Branch Trib	Upper EF Elk	RNA Creek	Ulm Creek	Clinton Creek	Rampike Creek	Shoshone Creek
Basin Area (sq miles)	0.35	0.8	0.41	0.85	0.84	1.56	2.24	2.58	4.48	3.49	69.2
Relief (ft)	1750	2480	1480	2680	2090	2524	2880	3190	3420	3260	4010
Ave Elevation (ft)	4800	4800	5500	4500	5200	5200	5120	4760	4380	4270	4190
Max Elevation (ft)	5600	6280	6280	5920	6450	6444	7064	6490	6480	6170	6490
Min Elevation (ft)	3850	3800	4800	3240	4360	3920	2966.3	3310	3050	2910	2480
Ave Slope (%)	48	52	50	40	50	40	43.4	46.5	46.6	46.2	41.6
% of Area w/ slope >30%	85	90	95	75	65	42	80.8	89	86.9	84.9	78.5
% of Area w/ slope >30% and facing North	12	20	17	10	14	20	21.3	14.5	11	18.7	23.3
% of Area covered by forest	60	50	87	60	80	68	98.6	89.7	86.1	90	84.3
Mean Annual Precipitation (in)	53	53	53	51	53	54	55.4	52.3	51.1	51.5	48.9

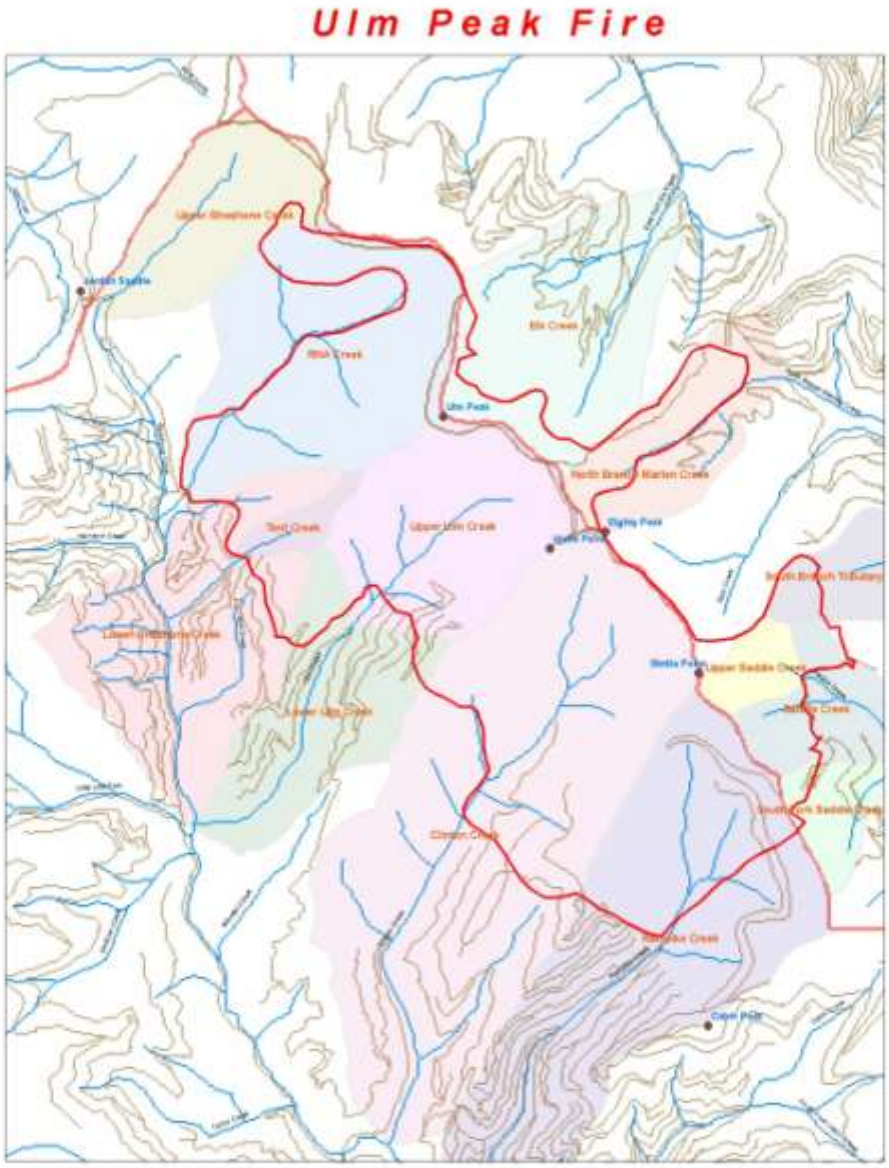
StreamStats (R2)	Saddle south	NF Saddle Ck	Upper Saddle	South Branch Trib	North Branch Trib	Upper EF Elk	RNA Creek	Ulm Creek	Clinton Creek	Rampike Creek	Shoshone Creek
Q2	12	25	8	25	26	46	65	70	113	91	1260
Q5	18	38	11	39	38	68	36	105	173	141	1910
Q10	23	48	14	50	48	84	120	133	221	181	2430
Q25	29	61	18	65	60	105	150	169	286	237	3130
Q50	34	71	20	76	69	120	173	196	336	279	3670
Q100	**40**	**82**	**23**	**88**	**78**	**137**	**197**	**226**	**391**	**326**	**4270**
Q200	44	90	24	98	84	148	214	247	433	364	4730
Q500	51	105	28	116	98	171	248	290	515	435	5620
Stream Stats (R1 - W/ Prefire forest conditions)											
Q2	26	53	23	41	57	100	105	96	114	85	
Q5	55	117	45	84	106	190	169	159	186	137	
Q10	89	192	69	132	156	285	232	221	254	187	
Q25	141	308	101	201	223	415	302	292	332	244	
Q50	195	430	134	271	288	542	367	359	404	296	
Q100	**265**	**588**	**175**	**360**	**368**	**697**	**442**	**436**	**486**	**356**	
Q200	360	800	229	476	470	896	535	532	586	429	
Q500	511	1143	310	656	619	1191	658	660	717	524	
Stream Stats (R1 - W/ Postfire forest conditions)											
Q2	27	68	41	42	60	100	107	115	120	88	
Q5	59	177	121	87	116	190	177	217	203	146	
Q10	96	320	233	137	175	285	244	324	283	202	
Q25	155	580	459	210	257	415	322	470	379	267	
Q50	217	877	732	286	338	542	394	612	469	328	
Q100	**298**	**1286**	**1129**	**381**	**438**	**697**	**479**	**784**	**572**	**399**	
Q200	407	1869	1725	506	568	896	583	1004	700	486	
Q500	586	2904	2859	701	762	1191	723	1326	872	601	

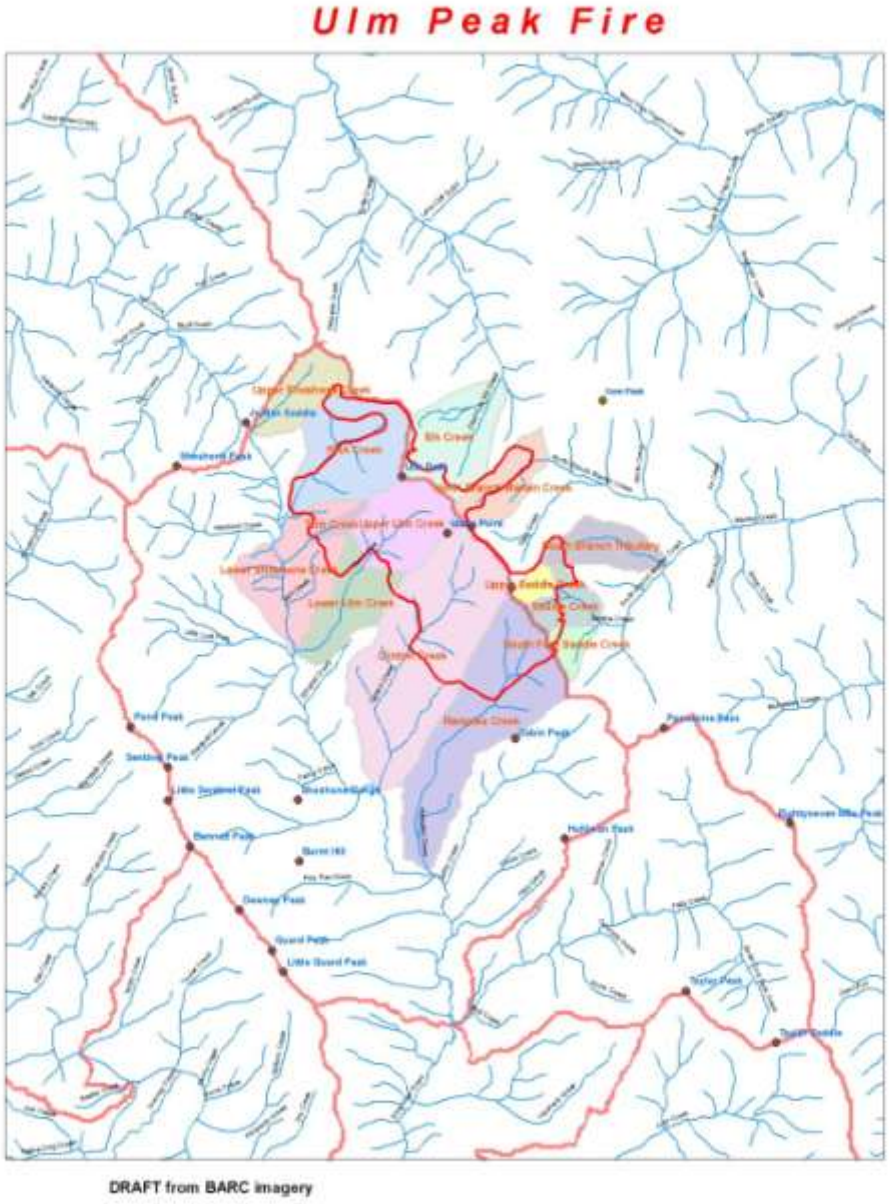
Stream Stats (R1 - Postfire % Flow change)	Saddle south	NF Saddle Ck	Upper Saddle	South Branch Trib	North Branch Trib	Upper EF Elk	RNA Creek	Ulm Creek	Clinton Creek	Rampike Creek	Shoshone Creek
Q2	3%	21%	43%	2%	5%	0%	2%	16%	5%	3%	
Q5	6%	34%	63%	3%	9%	0%	4%	27%	8%	6%	
Q10	7%	40%	71%	4%	11%	0%	5%	32%	10%	7%	
Q25	9%	47%	78%	4%	13%	0%	6%	38%	12%	9%	
Q50	10%	51%	82%	5%	15%	0%	7%	41%	14%	10%	
Q100	11%	54%	85%	5%	16%	0%	8%	44%	15%	11%	
Q200	12%	57%	87%	6%	17%	0%	8%	47%	16%	12%	
Q500	13%	61%	89%	6%	19%	0%	9%	50%	18%	13%	
Stream Stats (R2 - Postfire % Flow change)											
Q2	12	30	11	26	27	46	67	82	118	94	
Q5	19	50	19	40	42	68	37	133	187	149	
Q10	25	67	24	52	53	84	126	175	243	194	
Q25	32	90	31	68	68	105	159	233	322	258	
Q50	38	107	36	80	79	120	185	277	383	307	
Q100	**44**	**126**	**42**	**93**	**90**	**137**	**212**	**326**	**450**	**361**	
Q200	49	141	46	104	99	148	232	363	503	406	
Q500	58	169	53	124	116	171	270	436	606	490	

	Saddle south	NF Saddle Ck	Upper Saddle	South Branch Trib	North Branch Trib	Upper EF Elk	RNA Creek	Ulm Creek	Clinton Creek	Rampike Creek	Shoshone Creek
Q1.5 (Cabinet Regional Curve)	6	14	7	14	14	25	34	39	63	51	727
Q2 (USGS - West)	7	17	7	15	14	28	34	37	60	47	718
Q2 (USGS - Northwest)	10	20	11	21	21	39	56	59	95	76	1105
Q100 (USGS - West)	**35**	**77**	31	**69**	**59**	**111**	**120**	**134**	**211**	**168**	**1882**
Q100 (USGS - Northwest)	133	238	148	245	247	386	504	545	798	671	5477
Q100 (West) Pre-fire Culvert Size (CMP")	36	50	30	48	48	58	60	62	72	68	185
Q100 (West) Pre-fire Culvert Size (CMP Squash")	48x30	65x40	36x22	60x38	58x36	72x44	72x48	73x55	84x65	78x60	84x60

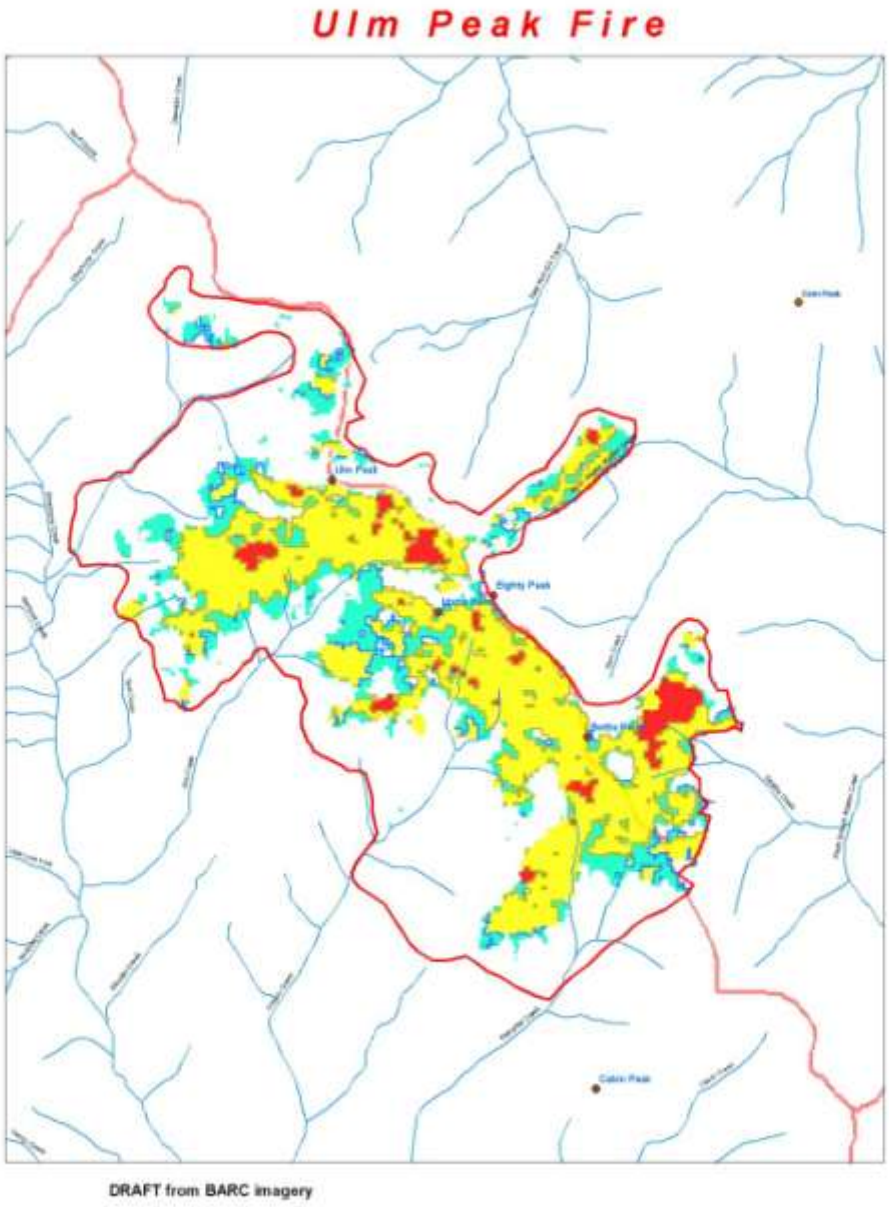
Appendix E. Area maps & Graphics

Ulm Peak Fire Area showing infrastructure.
Roads, Streams, sub-watersheds.

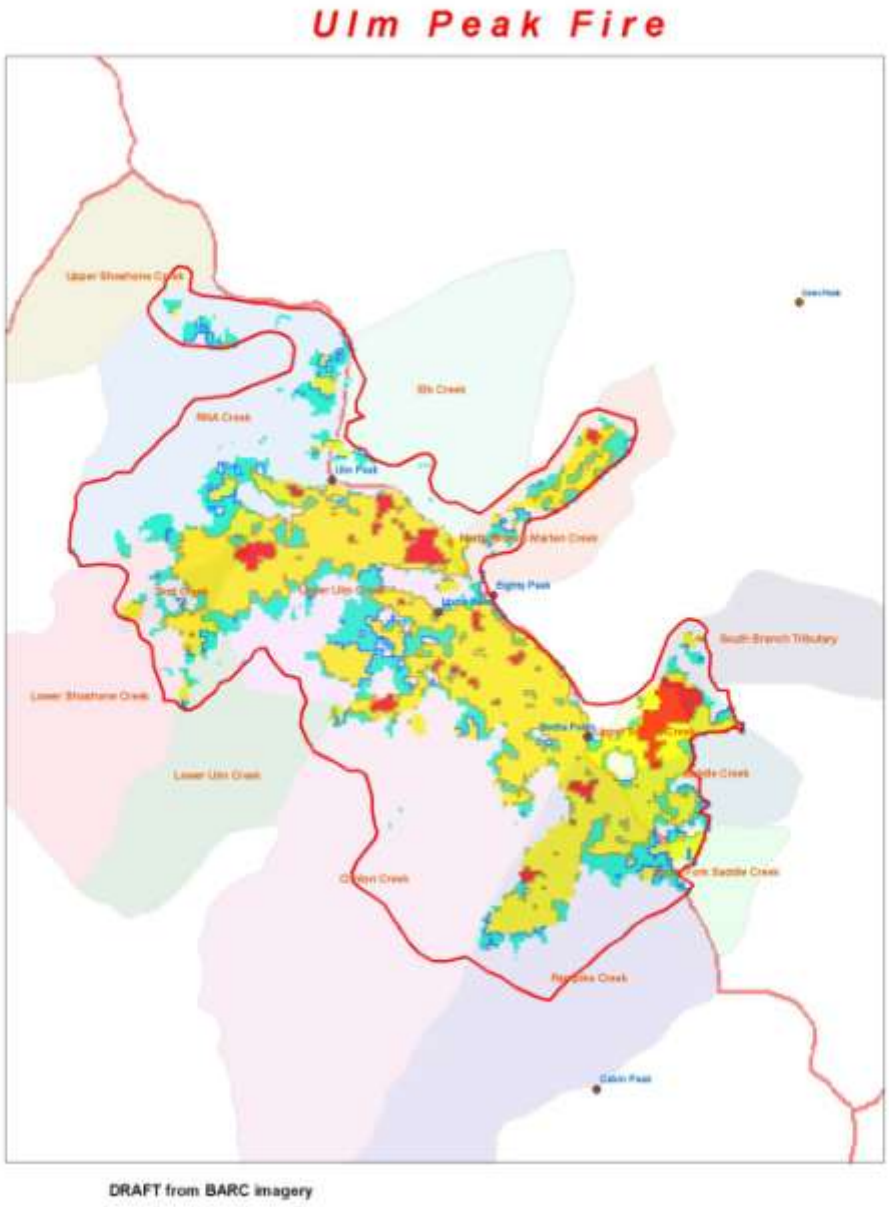




Ulm Peak Fire showing sub-watersheds



Ulm Peak Fire showing estimated Burn Severity. Red=high, Yellow=moderate, Blue=low



Ulm Peak Fire showing severity distributed by sub-watershed.