



U.S. Department of the Interior

Burned Area Emergency Response

Emergency Stabilization & Burned Area Rehabilitation

Mendocino Complex

Burned Area Emergency
Response (BAER) Plan
for the Bureau of Land Management





Interagency BAER Team

- Confederated Tribes of the Colville Reservation
- Confederated Salish & Kootenai Tribes
- Bureau of Indian Affairs
- U.S. Forest Service
- Bureau of Land Management
- U.S. Fish and Wildlife Services
- National Oceanic and Atmospheric Administration





Interdisciplinary BAER Team

- Team Leader
- Hydrologist
- Cultural Resources Specialist
- Wildlife Biologist/
Environmental Specialist
- Vegetation Specialist
- Soil Specialist
- GIS Specialist
- Automated Geospatial Watershed Assessment Modeler (AGWA)
- Documentation Specialist
- Outdoor Recreation Planner





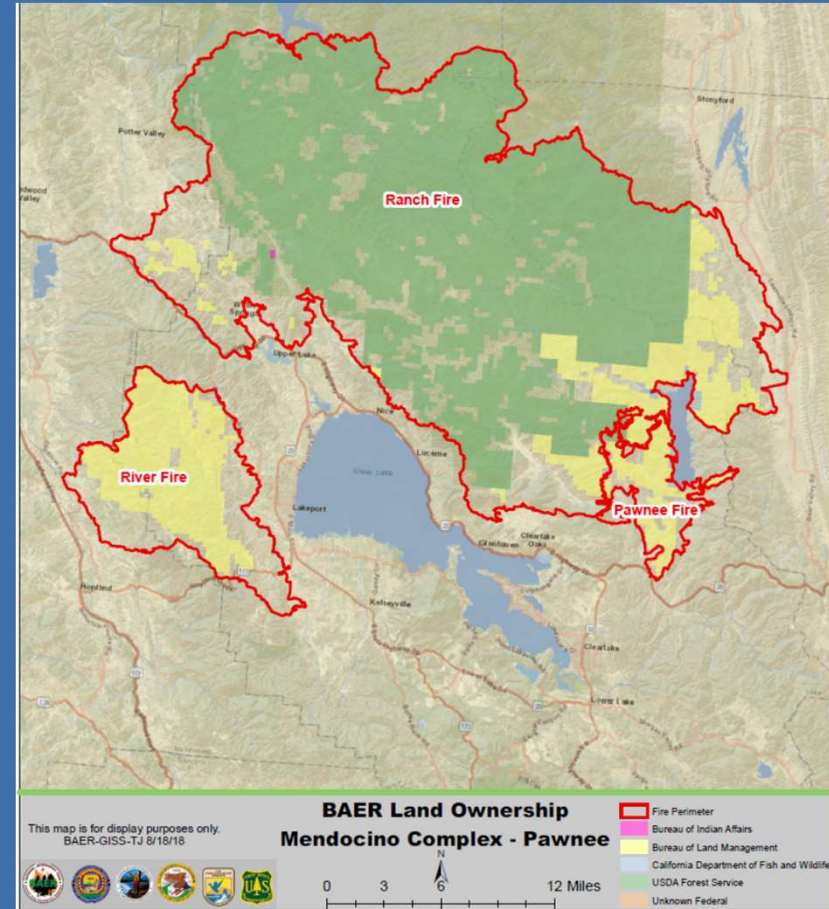
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Ranch Fire

BLM Acres	30,241
Ignition Date	July 27, 2018
Cause	Under Investigation

River Fire

BLM Acres	29,821
Ignition Date	July 27, 2018
Cause	Under Investigation





Emergency Stabilization (ES)

- Objectives
 - Reduce threats to human life, safety, and property
 - Identify threats to critical cultural and natural resources
 - Determine need and prescribe emergency treatments
 - Promptly stabilize and prevent unacceptable degradation to resources





Burned Area Rehabilitation (BAR)

- Objectives
 - Repair or improve fire-damaged lands unlikely to recover naturally
 - To identify future opportunities to rehabilitate the burned areas
 - To facilitate the restoration of the resource





Issues

Emergency Stabilization

- ES1 - Human Life and Safety
- ES2 - Soil/Water Stabilization
- ES3 - Habitat for Federal/State Listed, Proposed or Candidate Species
- ES4 - Critical Heritage Resources
- ES5 - Invasive Plants and Weeds
- ES6 - Monitoring

Burned Area Rehabilitation

- BAR1 - Lands Unlikely to Recover Naturally
- BAR2 - Weed Treatments
- BAR3 - Tree Planting
- BAR4 - Repair/Replace Fire Damage to Minor Facilities
- BAR5 - Monitoring





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Treatments and Specifications



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Watershed



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Watershed Observations

- Changes in ground cover
- Potential for erosion and sediment delivery due to Soil Burn Severity (SBS)





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Watershed Observations

Soil Burn Severity



High



Moderate



Low

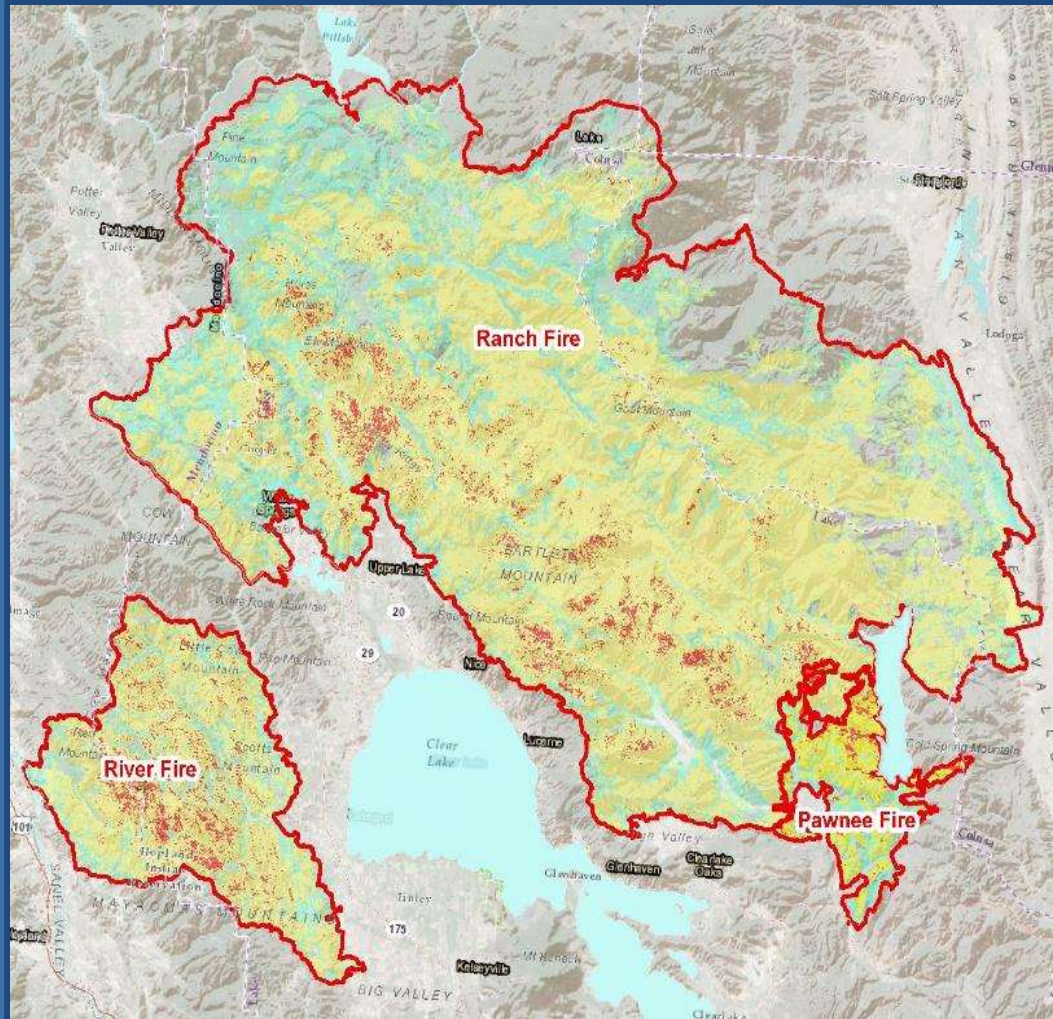
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Soil Burn Severity on BLM Lands



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SBS - River Fire	Acres	%
High	3,331	11
Moderate	21,230	71
Low	3,686	12
Unburned/Very Low	1,548	5
Total	29,795	

SBS - Ranch Fire	Acres	%
High	314	1
Moderate	22,069	73
Low	4,296	14
Unburned/Very Low	3,538	12
Total	30,217	



Soil and Water Stabilization

Issues

1. 82% Moderate-High Soil Burn Severity
2. Watershed Response (AGWA model)
3. Highly Erodible Soils

Values at Risk

1. Scotts Watershed - Clear Lake Total Maximum Daily Load
2. 8-Mile Meadow Restoration
3. (Morrison Watershed – Habitat Endangered Species Act-listed Fish)
4. Roads, Trails and Cultural Sites





Soil and Water Stabilization Treatment Recommendations

Trail Drainage Treatment

- Focused on implementing actions that contribute to Clear Lake water quality, sediment reduction goals and complement 8-mile meadow restoration project.
- 73 miles of trails, 66 miles affected by moderate and high soil burn severity (SBS).
- Clean existing trail drainage structures, construct additional waterbars and rolling grade dips, rebuild fire-damaged retaining walls, and place straw wattles to slow water flow.

1/2/2019





Soil and Water Stabilization Treatment Recommendations

Road Drainage Improvements

- Focused on implementing actions contributing to Clear Lake water quality, sediment reduction goals and complement 8-mile meadow restoration project.
- 53 miles of roads, 38 miles in moderate and high soil burn severity.
- Construct rolling drainage dips, strategically place drain runouts, culvert inlet cleaning, ditch cleaning, and template shaping to reduce concentration of overland flow and increase ability of road to handle increased runoff, sediment and debris from fire.





Watershed Modeling - AGWA

Land Cover (NLCD)

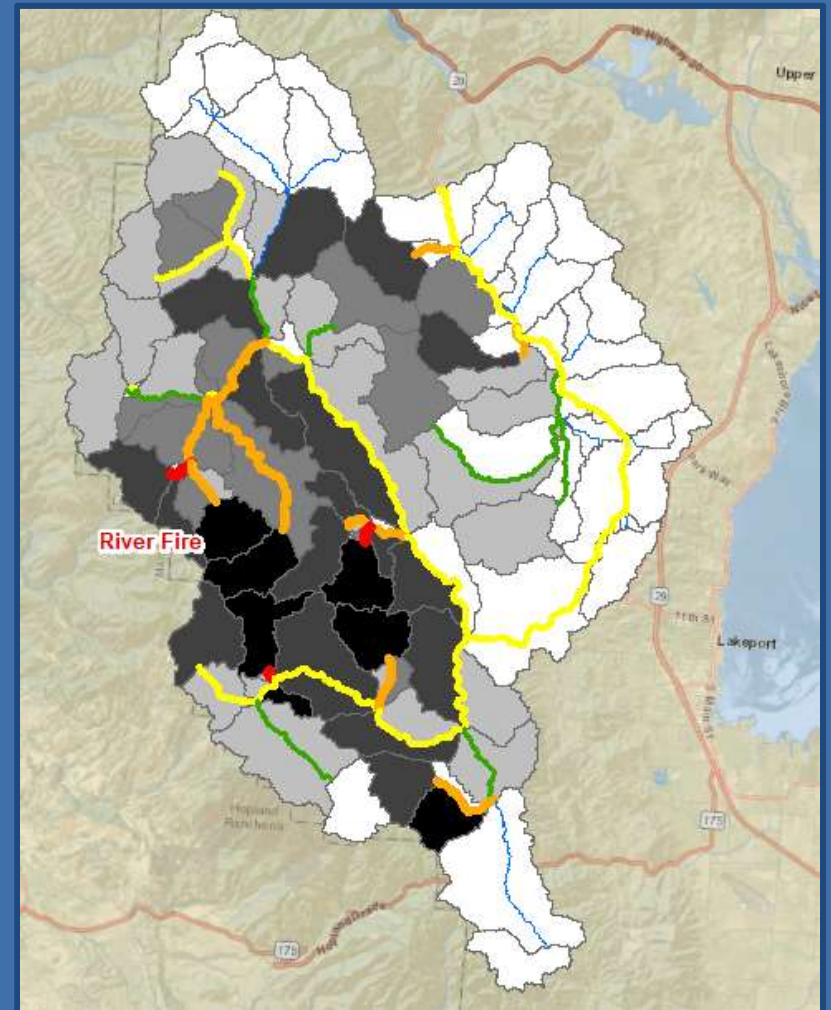
Elevation (NED)

Soils (StatsGo)

Soil Burn Severity



Storm





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Vegetation Assessment



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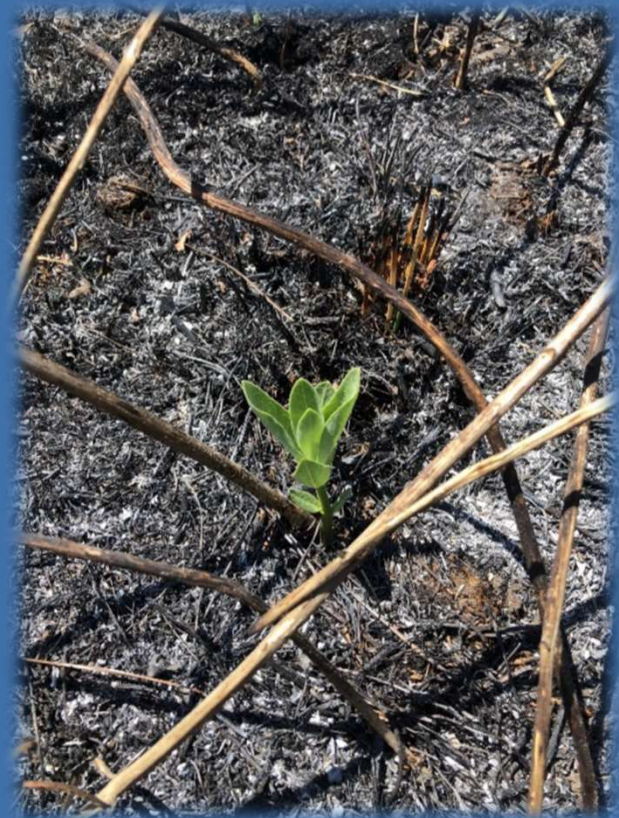
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Vegetation Observations

- Many fire adapted species
- Perennial plant survival
- Unburned vegetation
- Noxious weeds
- Serpentine soil
- No Threatened and Endangered plants





Vegetation Issues

- Impacts from noxious weeds





Recommendations

- Inventory Invasive and Noxious weeds
- Treatment

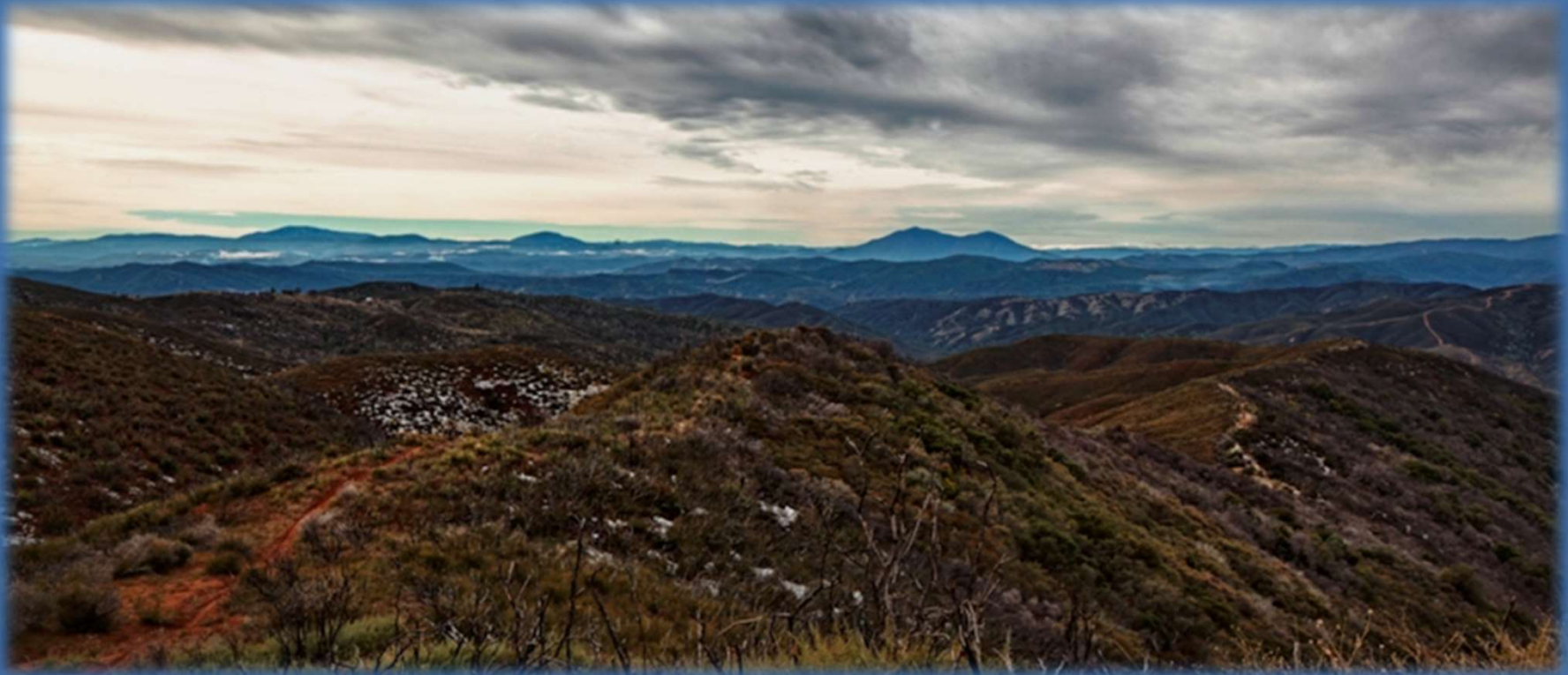




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Fish and Wildlife



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Fish and Wildlife Assessment Species of Concern

Threatened and Endangered Species

- Chinook Salmon - Central Valley Spring-run (Threatened)
- Coho Salmon – Central California Coast (Endangered)



BLM Special Status Species

- Clear Lake Hitch
- Foothill Yellow-legged Frog
- Western Pond Turtle
- Bald Eagle





Fish and Wildlife Treatments

- No wildlife specific treatments are currently proposed
- Resource treatments that will also benefit fish and wildlife are:
 - Invasive Plant and Noxious Weed Monitoring
 - Invasive Plant and Noxious Weed Treatment
 - Lost Valley Headcut Stabilization
 - Trail Drainage Improvement
 - Road Drainage Improvement
 - Burned Area Closure





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Recreational Hazards



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Recreational Site Hazards

- Emergency Stabilization (ES) - Recreational Site Hazard Mitigation
 - Reduces or eliminates threats to human life and safety caused by hazard trees.
 - Prevents further destruction of BLM facility investments.





Trail Hazards

- ES - Trail Hazard Mitigation
 - Reduces or eliminates threats to human life and safety caused by hazard trees, falling rocks, and burned roots along BLM developed trails.
 - Facilitates soil site stability.





Facility Replacement

- Burned Area Rehabilitation (BAR) - Campground Facility Replacement
 - Ensure that recreational values are maintained.
- BAR - Trail Facility Replacement
 - Provide informational signage to facilitate safe use on BLM developed trails.





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Cultural/Heritage Resources



Lewis' 1895 Homestead



Hand-stone for grinding pinole



*Sedge beds by tribal elder
Christine Hamilton*

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Post-fire Exposure to Cultural Sites



- Norris Homestead
- New visibility increases temptation to loot
- Post-fire vulnerability increases potential loss of this history





Cultural Proposed Treatments

- Monitoring
 - Erosion from increased sediment run-off
 - Looting by individuals looking for relics
 - Vandalism (trespass)
- Barricading sites from potential trespass
- Placement of rip-rap
 - Lessen erosive force





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Potential Erosion Threats



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BAER Specifications

- Project Management
- Invasive Plant and Noxious Weed Monitoring
- Lost Valley Headcut Stabilization
- Trail Drainage Improvement
- Road Drainage Improvement
- Storm Patrol
- Recreational Site Hazard Mitigation
- Burned Area Closure/Unauthorized Access Prevention
- Potential Closure Order and Enforcement
- Trail Hazard Mitigation
- Site Protection
- Cultural Site Monitoring for Erosion
- Invasive Plant and Noxious Weed Treatment
- Campground Facility Replacement (BAR)
- Trail Facility Replacement (BAR)
- Trail Water Diversion and Crossing Replacement (BAR)





Identify Treatment Areas (September—October 2018)

Identify potential treatment sites using watershed modelling, burn severity data, and other data collected by the BAER team

Site Verification (October—November 2018)

Ground truth models and data

Assess work sites and recreation sites for hazards that would need to be mitigated prior to implementation

Plan Treatments (October—November 2018)

Design site specific treatments

Identify materials needed and/or create contracts for work

Treatment Implementation (October 2018—June 2019)

Begin implementation of treatments

Hazard tree removal will be prioritized at work sites, campgrounds, and staging areas

Monitor Treatment Effectiveness (continuous)

Ensure implemented treatments are properly functioning

This includes implementing emergency action to correct any failures as they occur

Post-winter Damage Assessment and Planning (February 2019—June 2019)

Repair winter damage to roads, trails, and recreational facilities (i.e. removal of fallen trees, fixing erosion, etc.)

Ensure all facilities are repaired and safe for public use



Questions?

