Mendocino Lightning Complex Fire

State Emergency Assessment Team (SEAT)
Report
DRAFT

Affecting Watersheds in Mendocino County California

PRELIMINARY EVALUATION OF POTENTIAL POST FIRE HAZARDS FOR THE MENDOCINO LIGHTNING COMPLEX

The scope of the assessment and the information contained in this report should not be construed to be either comprehensive or conclusive, or to address all possible impacts that might be ascribed to the fire effect. Post fire effects in each area are unique and subject to a variety of physical and climatic factors which cannot be accurately predicted. The information in this report was developed from cursory field examination by licensed resource professionals and should be viewed in conjunction with other relevant sources of information. Neither the State of California nor any Agency or Department participating as a member of the Preliminary Post Fire Hazard Assessment or State Emergency Assessment Team (SEAT) makes any warranty, express or implied, nor assume any legal liability for the information disclosed herein.

Mendocino Lightning Complex CA-MEU-004608
Affecting watersheds in Mendocino County, California

Author Names: Dave Longstreth, Certified Engineering Geologist
California Geological Survey,
17501 North Highway 101,
Willits, CA 95490
Office (707) 456-1814

Stormer Feiler, Environmental Scientist
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Blvd. Suite A
Santa Rosa, CA 95403
Office (707) 543-7128

A.) Introduction

A preliminary post fire hazard assessment has been conducted in the Mendocino County area to assess the general degree of risk associated with the burn areas. The assessment was also conducted to evaluate whether an assessment by a State Emergency Assessment Team (SEAT team) is necessary to further evaluate the Values at Risk in around the affected burn area of the Mendocino Lightning Complex. Values at risk are defined as:

- On-site and downstream threats to public health or safety from landsliding, mudsliding, debris torrents, flooding, road hazards, and other fire related problems.
- Threats to watershed resources, including: excessive erosion; impaired water quality; threats to wildlife, fisheries, and botanical values; and cultural resources.

B.) Resource Setting and Assessment Methods

The Mendocino Lightning Complex consists of 129 separate fires that burned approximately 54,000 acres located within the Coast Ranges geomorphic province. Plate 1 is a regional geologic map and explanation that includes the fire areas. The 15 largest fires range from 7,500 to 1,100 acres in area. The remaining 114 fires are less than 1,000 acres in area, with most of those less than 100 acres in size. Burn severity and hydrologic conditions vary significantly between each fire; with most of the burn areas consisting of moderate to low burn severity as identified on the BARC maps (Appendices 1 through 8).

The principal concern with the Mendocino Lightning Complex fires is an increase in the potential for in-channel floods, hyperconcentrated floods/flows, debris torrents, and debris flows. The primary mechanisms for this are:

- Increases in runoff resulting from the loss of live vegetation,
- Reductions in infiltration due to the removal of duff and the dehydration of the soil,
- Development of hydrophobic soils,
- The simplification of surficial runoff patterns, and
- The loss of mechanical support of hillslope materials that was provided by vegetation and vegetative litter along stream channels.

With the exception of Hardy and Juan Creeks, it appears the development of significantly hydrophobic soils (waxy substances released by plant materials during relatively high temperature fires which have congealed within the soils as continuous surfaces) does not appear to have occurred within the majority of the burn areas because most of the burn areas are relatively small in area (less than 100 acres) and consist of understory burns that apparently did not attain relatively high temperatures. The most concentrated areas of high burn severity were observed in Hardy and Juan Creeks (Hardy Fire) where 67 percent of the Hardy Creek watershed was burned (2437 acres) with 21 percent receiving High and Moderate Burn severity (520 acres). Ten to twenty acre areas of what appear to be high burn severity observed in Juan Creek not reflected in the BARC maps were found to have developed hydrophobic soils (Parsons, 2003). Those areas that do exhibit apparent areas of high burn severity or are located upslope of identified high value features (locations that are at risk for possible loss of life and property due to in-channel floods, hyperconcentrated floods, debris torrents, debris flows, slope-generated landslides, rock fall, and associated slope movement) were visited during this preliminary assessment. Areas that contained concentrations of homes, businesses, and public infrastructure received the greatest attention. Road and foot inspections were conducted in the high value/high risk areas over a number of days between September 4 and 16, 2008. Aerial transport for regional aerial review was not available for this preliminary assessment. The magnitude of post-fire damage will ultimately be determined by the intensity and duration of storms that impact the burn area, particularly during the winter of 2008-09.

The recommendations found in this report are to be used as a guideline for possible mitigation to decrease to risk of damages to life and property. The following information

summarizes key findings contained in the preliminary post fire assessment of the Mendocino Lightning Complex fires.

C.) General Observations

1.) County Road System, Highway 101, and Highway 1 Infrastructure

Numerous bridges, culverts, and other watercourse crossings are located along county roads, Highway 1, and Highway 101. Many crossings may be impacted by sediment laden floods, debris flows, and debris torrents. Obvious “at risk” locations that were viewed during our assessment are described included under the Specific Observations section (below), however it should be noted that it is beyond the scope of this preliminary assessment to identify every risk associated with the entire county road and State Highway system.

2.) Threats to Wildlife, Botanical Values, and Fisheries

As a result of the fire and the impacts from the loss of vegetation and burn severity evaluation biological and fisheries habitat is at an increased risk to the threat of flooding, debris flows, and sedimentation along Hardy Creek and Juan Creek where higher burn intensity were observed. Burn severity and hydrologic conditions in other burn areas generally consist of moderate to low burn severity where the risk to habitat appears lower (see BARC maps, Appendices 1 through 8). The Red Mountain Fire is underlain by ultramafic rock that typically develops soils that support rare plants. Little Red Mountain Ecological Reserve that is maintained by the California Department of Fish and Game (CDFG) appears to have received low to moderated burn intensity. It is understood that a CDFG representative is monitoring fire suppression repairs in the area with regard to botanical and habitat values.

3.) Water Quality Concerns

Fisheries, sedimentation and canopy loss are concerns in the North Coast Region due to the decreasing numbers of salmonids and the multiple federal Clean Water Act 303(d) listed waterbodies. With that said, the fires reviewed are of concern in the following regard: Hardy Creek and Juan Creek fires have the potential given triggering rainfall events to result in mortality for resident and migratory fish species in associated streams. The Hardy Creek and Juan Creek are not federal Clean Water Act 303(d) listed. Hardy Creek is rated as moderate probability for mortality should heavy rainfall occur early in the year without a significant number of smaller storms. If smaller storms were to occur and result in ash absorption and soil saturation past the hydrophobic layer, then the likelihood of mortality for fish would decrease. The Hardy Creek watershed is predominantly burnt over in various degrees, which increases the likelihood for ash and sediment transport given the right environmental conditions.

Juan Creek is considered a low probability for mortality due to the development of hydrophobic soils. The high intensity burn areas appear to primarily occur on the north side of Juan Creek. The fires focus to the north is likely to lead to some refugia available

on southern stream side tributaries should stressing storm events result in heavy overland flows and transport of ash and sediment into streams.

4.) Areas Not Assessed.

Several homes, ranches, cabins, and camps reside in the interior of some of the burn areas that are not accessible because they are gated. It should be noted that it is beyond the scope of this preliminary evaluation to gain access to every residential structure and/or camp that may be at risk. Areas with low, moderate, and high potential risks to life and property from slope instability likely exist in the vicinity of the Mendocino Lightning Complex Fires that are not included in this evaluation. Evaluation of all properties within the all the burn areas is beyond the scope of this review. The evaluation of sites not directly affected by the fire is likewise beyond the scope of this evaluation.

D.) Specific Observations (keyed to Hazard Summary Table).

Houses and other high-value sites within and down slope from burned areas were assessed to evaluate potential risks from near-site debris flow, floods, and other geologic hazards. Some structures (for example houses, ranches, resorts, campgrounds) and infrastructure (for example roads and highways) near, within, and or downstream of large watersheds appear to be in positions where they may be affected by significant in-channel floods, hyperconcentrated floods, debris torrents, and debris flows. At risk sites that were identified as having potential risks to lives or property are listed and briefly described below and summarized the Hazard Location Summary Sheet at the end of this report.

Orr/Low Gap Fires.

Orr Springs Road (No Map Point). Much of the Orr Series fire drains to the County road (Orr Springs Road). The road contains numerous watercourse crossings (culverts and bridges). Although the likelihood of risk is considered low, the crossings may experience increased flows depending on the severity of the 2008/2009 winter and spring rains.

Montgomery Woods State Reserve (Map Point 63). The slopes that drain to Montgomery Woods State Reserve received low, moderate and high burn severity. Although the likelihood of risk is considered low, the slopes that drain to Montgomery Creek may experience increased runoff, flooding and debris flows that could adversely impact visitors and recreational values in the reserve.

Orr Springs Hot Springs (Map Point 64). The likelihood of risk to the resort appears low with much of the slopes that descend to the resort unburned. However, one of the structures is located at the base of a small drainage that received moderate to low burn intensity.

Low Gap Road (Map Point 65). A small moderately burned drainage that drains to the county road contains much stored material (slash and soil) above the road. Although the likelihood of risk is considered low, increased runoff may result in flow and deposition of this material onto the road.

Hardy and Middle Fires

Residential Structures (Map Points 66, 67). Homes along Cottaneva Creek (Rock Port area) and at the bottom of Juan Creek may be subject to flooding depending on the severity of the 2008/2009 winter and spring rains.

Highway 1 (Map Points 68, 69, 70, 71). The highway contains numerous watercourse crossings (culverts and bridges). The watersheds above received moderate to high burn intensity and the likelihood of risk is considered moderate to high. The crossings may experience increased flows, plugging, and overtopping depending on the severity of the 2008/2009 winter and spring rains.

Sugarloaf/Mallo/Cliff Fires

Campgrounds (Map Points 72, 73). Although the likelihood of risk is considered low, campgrounds that are scattered along Alder Creek may be subject to flooding from increased flows depending on the severity of the 2008/2009 winter and spring rains.

Residential Structures (Map Point 74). Several homes located on a ridge top survived a moderate to high intensity burn. The slopes that ascend to the structures contain numerous standing dead conifers (mostly Douglas fir) that appear to be in a position to fall on the homes.

Red Mountain Fire

Residential Structures (Map Points 75, 76 and 79). Ranches located within the burn areas accessed from Bell Springs road (Map Points 75, 79) and one house located downstream of the burn area (Map Point 76) may be subject to flooding and debris flows depending on the severity of the 2008/2009 winter and spring rains. Although the likelihood of risk is considered low, the consequences of the risk is considered moderate to high.

Highway 101 (Map Points 77 and 78). Two box culverts drain Cedar Creek and Big Dan Creek under the Highway. The headwaters of the drainages received mostly moderate burn intensity. Depending on the severity of the 2008/2009 winter and spring rains increased flows may occur in the watersheds that may adversely impact the culvert crossings.

Big Fire

Residential Structure (Map Point 80). A ranch located near the base of slopes that appears to have experienced moderate to high burn intensity may be subject to flooding and debris flows depending on the severity of the 2008/2009 winter and spring rains. Although the likelihood of risk is considered low, the consequences of the risk is considered moderate.

E.) Emergency Determination

The values at risk considered in this evaluation include the possible loss of life and property due to landsliding, debris flow, debris torrents, and hyperconcentrated flooding from increased surface water runoff. In general, the risk from landslides, debris flows and floods are possible where roads, residences or other developments are located within and/or adjacent to canyon stream channels or on alluvial fans, colluvial slopes and debris flow deposits.

It should be noted that these hazards are part of the natural processes in this environment, and that these risks were present under pre-fire conditions. Many existing structures in the burn area and downstream of the burn area have been, and will continue to be at risk from these hazards. The potential for these processes to be exacerbated by fire is primarily dependent upon burn severity and slope steepness, both of which are highly variable in the Mendocino Lightning Complex Fires area. In general, where the burn severity is moderate to high and the slopes are steep, (such as along Hardy Creek and Juan Creek) the potential for increased hazard is greatest.

Areas with low, moderate, and high potential risks to life and property from slope instability likely exist in the vicinity of the Mendocino Lightning Complex Fires that are not included in this assessment. Assessment of all properties within the all the burn areas is beyond the scope of this review. The assessment of sites not directly affected by the fire is likewise beyond the scope of this evaluation.

F.) Need for further evaluation by a SEAT Team

Threats to public health or safety were assessed during the process of this preliminary evaluation. Where threats were observed the locations and hazard was noted and described. Similarly threats to watershed resources, including: excessive erosion; impaired water quality; threats to wildlife, fisheries, and botanical values were evaluated during this preliminary evaluation. With exception to the Hardy fire area, burn severity and hydrologic conditions in most of the burn areas generally consist of moderate to low burn severity where the risk to habitat appears low (see general observations 2 and 3). A summary of the threats can be found in the summary sheet at the end of this report and recommendations regarding the threats are provided below. Risks to cultural resources were not evaluated during this evaluation; however it is understood the fire areas were monitored under the auspices of Cal Fire archeologist Chuck Whatford during the fire suppression efforts. As such it appears that a SEAT team is not necessary to further evaluate the Values at Risk in and around the affected burn area of the Mendocino Lightning Complex, because the primary objectives of such an evaluation have generally been completed.

G.) General Recommendations:

1.) County Roads, Highway 101, Highway 1 Infrastructure

The portions of existing highway drainage systems along Highway 101 and Highway 1 mentioned in this report should be inspected by Cal Trans to evaluate potential impacts from floods, hyperconcentrated floods, debris torrents, debris flows and sedimentation resulting from winter rains. Cooperation with landowners along the Highway corridors

should be established so as to enable Cal Trans to implement erosion control outside of the highway corridor easements.

It is understood that Orr Springs Road and Low Gap Road are roads controlled by Mendocino County. The culverts and bridges mentioned in this report should be evaluated by county engineers to assess the potential for foundation scour and possible plugging from a debris flow or flood. Other county roads not specifically addressed in this report should be evaluated by county engineers for possible implementation of erosion control measures as deemed necessary.

2.) Threats to Wildlife, Botanical Values, and Fisheries

Emergency actions are not recommended for wildlife habitat and species recovery at this time but recommendations are suggested for treatments and monitoring that may be conducted to improve sensitive species habitat and document the possible effects of the fires on wildlife resources. Best Management Practices (BMPs) should be implemented upstream to minimize sediment loads. Revegetation efforts should be conducted where appropriate to promote native habitat recovery. Post-fire surveys should be conducted for fishery species and their habitat, particularly along Hardy and Juan Creeks. Species monitoring should be conducted to assess long-term population impacts from the fire. Post-fire surveys should be conducted for botanical resources (rare plants) in the area of the Red Mountain fire where they are known to occur. It is understood that such surveying may by be taking place in the Little Red Mountain Ecological Reserve that is maintained by the California Department of Fish and Game (CDFG). Coordination between the CDFG and local agencies should be conducted regarding maintenance activities to avoid, minimize, and mitigate additional species impacts.

3.) Water Quality Concerns

No specific water quality based emergency actions are recommended for the Mendocino Lightning Complex Fires. However, in general, we suggest that the State consider evaluating the need to look at post fire watershed conditions in regard to jump starting declining fisheries (primarily salmonid) populations with in-situ rearing programs or hatcheries for stocking programs. Over the last several years larger fires have been an increasingly common occurrence in the mountainous and forested watershed areas of California. Although three years is not a trend, with the increasing awareness of the potential for climate change and recognition that California suffers in many areas from an increased fuel loading and a overall increase in the time between historic and present day fire occurrence regimes such consideration is likely warranted. An additional concern warranting consideration of fisheries population dynamics and perhaps a more aggressive approach to instream fisheries population management is the closure of the 2008 Salmon fishing season and the Endangered and Threatened listings of Coho salmon and Steelhead trout in their respective Evolutionarily Significant Units (ESU's).

4.) Areas Not Assessed.

Any properties not included in this report and hazard summary table (at the end of this report) should be visited by emergency response agencies and/or community groups in an effort to provide further assessment and advise those property owners.

H.) Specific Recommendations

Orr/Low Gap Fires.

Orr Springs Road (No Map Point) and Low Gap Road (Map Point 65). See General Recommendation 1. The culverts and bridges mentioned in this report should be evaluated by county engineers to assess the potential for foundation scour and possible plugging from a debris flow or flood.

Montgomery Woods State Reserve (Map Point 63). The State Reserve should develop a protocol for restricting visitor access when high intensity storms are anticipated. Contact California State Parks and Recreation.

Orr Springs Hot Springs (Map Point 64). The structure is located at the base of a small drainage should be further assessed by a qualified engineer or geologist. The assessment should include and evaluation as to whether it should or should not be occupied during winter storms. Contact the owners of the resort and County of Mendocino OES.

Hardy and Middle Fires

Residential Structures (Map Points 66, 67). Residents should be warned of the hazard for flooding. The County of Mendocino OES and residents should consider developing an evacuation plan should the area become flooded. Contact Mendocino Redwood Company and County of Mendocino OES.

Highway 1 (Map Points 68, 69, 70, 71). See General Recommendation 1. The portions of existing highway drainage systems along Highway 1 mentioned in this report should be inspected by Cal Trans to evaluate potential impacts from floods, hyperconcentrated floods, debris torrents, debris flows and sedimentation resulting from winter rains. With respect to the potential for increased sediment and flows the culverts should be sized to accommodate the expected increased debris and flows and if necessary replaced.

Sugarloaf/Mallo/Cliff Fires

Campgrounds (Map Points 72, 73). Campers should be notified/warned of the hazard for flooding. Visitor access limitations may also be prudent when high intensity storms are anticipated. Signs should be posted along the roads that access the campgrounds so that campers and residents may be warned. Contact Wilderness Unlimited, Mendocino Redwood Company, and County of Mendocino OES.

Residential Structures (Map Point 74). The potential hazard trees should be evaluated by a forester or similar expert and determine if trees should be felled to minimize

adverse impacts to the structures. Contact Cal Fire, NRCS, and County of Mendocino OES.

Red Mountain Fire

Residential Structures (Map Points 75, 76 and 79). Residents should be warned of the hazard from flooding and debris flows. The County of Mendocino OES and the residents should consider developing an evacuation plan should the area become flooded. Contact individual residents and County of Mendocino OES.

Highway 101 (Map Points 77 and 78). See General Recommendation 1. The portions of existing highway drainage systems along Highway 101 mentioned in this report should be inspected by Cal Trans to evaluate potential impacts from floods, hyperconcentrated floods, debris torrents, debris flows and sedimentation resulting from winter rains.

Big Fire

Residential Structure (Map Point 80). Residents should be warned of the hazard from flooding and debris flows. The County of Mendocino OES and the residents should consider developing an evacuation plan should the area become flooded. Contact individual residents and County of Mendocino OES.

I.) References

Jennings and Strand, 1960, Geologic Map of California, Ukiah Sheet, Division of Mines and Geology.

Parsons, A, 2003, Draft - Burned Area Emergency Rehabilitation (BAER) Soil Burn Severity Definitions and Mapping Guidelines: USDAFS dated April 22, 2003: 12 pages, 1 table, 3 appendices.

BARC maps supplied by OES titled *MEU Fire Severity Maps.*

Hazard Site Evaluation Summary - Map Points

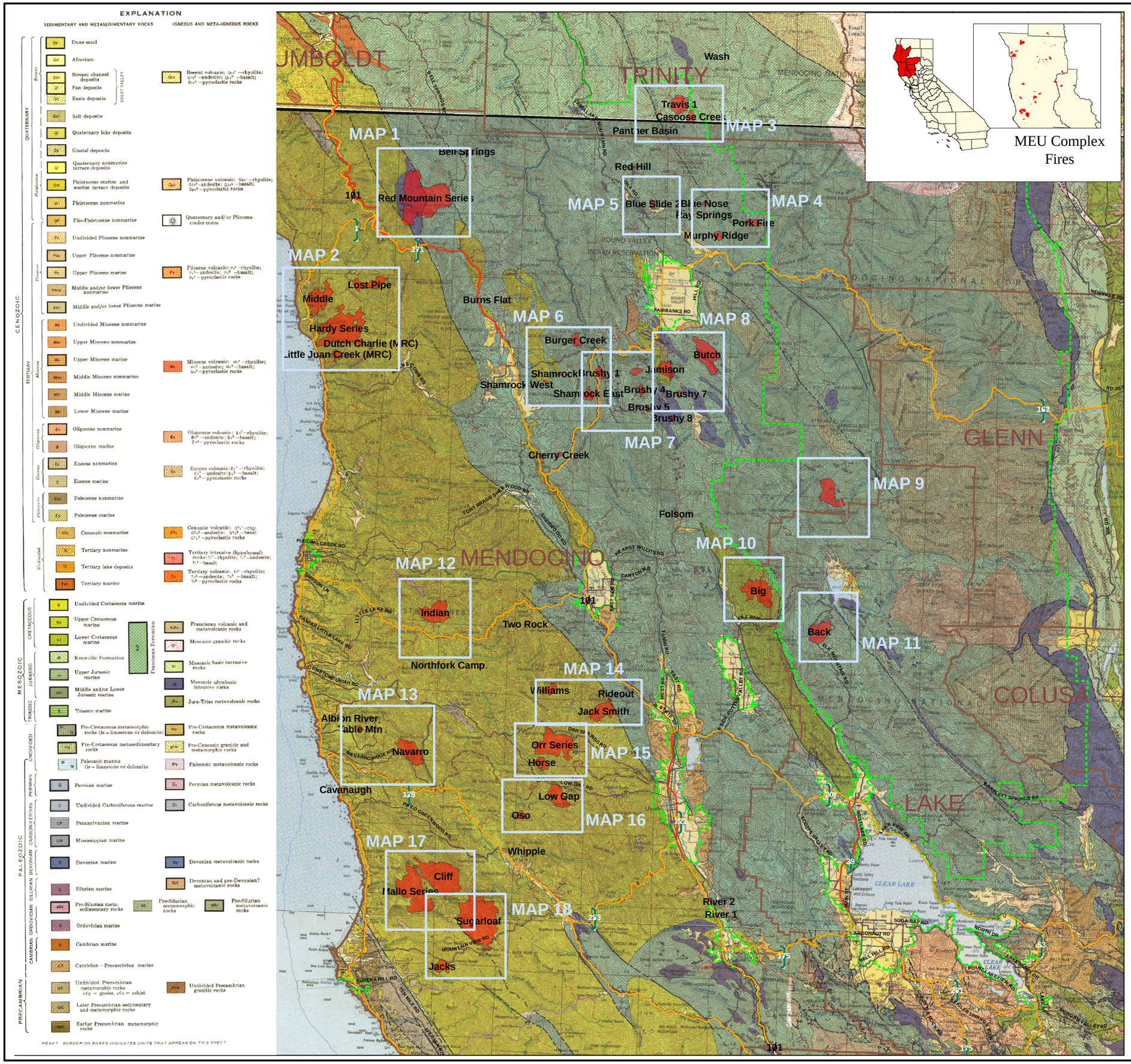
Fire Name : Mendocino Lightning Complex Fires - CA-MEU-004608

Bold where risks are high - Datum: WGS 84

Site number	At-risk Feature	Location	GPS location Latitude N	GPS location Longitude W	Hazard	Likeli-hood	Risk to lives fire	Risk to lives pre-exist	Risk to property/habitat fire	Risk to property/habitat pre-exist
G 63	Reserve	Orr Springs Road	39.34793	-123.31921	flooding	Low	NA	NA	Low	Low
G 64	Resort	Orr Springs Road	39.22983	-123.36681	Mudslide	Low	Mod	Mod	Mod	Mod
G 65	County Road	Low Gap Road	39.16713	-123.38445	Mudslide	Low	Low	Low	Low	Low
G 66	House	Juan Creek	39.70343	-123.8017	Flooding	Low	Low	Low	Low	Low
G 67	Homes	Rockport	39.73729	-123.81421	Flooding	Low	Low	Low	Low	Low
G 68	Bridge	Hwy 1 and Rockport	39.73845	-123.81683	Flooding	Mod	Mod	Low	Mod	Low
G 69	**Culvert**	**Hwy 1 / picnic area**	**39.75086**	**-123.8185**	**Flooding, Plugging**	**Mod**	**High**	**Mod**	**High**	**Mod**
G 70	Culvert	Hwy 1	39.75783	-123.82144	Flooding, Plugging	Mod	Mod	Low	Mod	Low
G 71	Bridge / Homes	Hwy 1 / Hardy Creek	39.7118	-123.80322	Flooding	Mod	Mod	Low	Mod	Low
G 72	Camp ground	Along Alder Creek	39.3481	-123.31888	Flooding	Low	Low	Low	Low	Low
G 73	Camp ground	Along Alder Creek	38.99904	-123.55582	Flooding	Low	Low	Low	Low	Low
G 74	Homes	9900 Signal Ridge Road	39.04214	-123.54028	Tree Fall	Mod	Mod	Mod	Mod	Mod

G	75	Cabin	Bell Springs	39.90664	-123.60851	Mudslide	Low	Mod	Low	Mod	Low
G	**76**	**Homes**	**65501 Hwy 1, Leggett**	**39.85061**	**-123.70261**	**Flooding**	**Low**	**High**	**Low**	**Mod**	Low
G	77	Box Culvert	Hwy 101 and Cedar Creek	39.84655	-123.70218	Flooding	Low	NA	NA	Low	Low
G	78	Box Culvert	Hwy 101 and Big Dan Creek	39.84487	-123.69765	Flooding	Low	NA	NA	Low	Low
G	79	Ranch	Bell Springs	39.88766	-123.59678	Flooding, Mudslide	Low	Mod	Low	Mod	Low
G	80	Ranch	Big Fire Area	39.42419	-123.06255	Mudslide	Low	Mod	Low	Mod	Low

MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)
Geology Overview Map



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September 3, 2008
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Sources FAMWEB 209s, CGS Geology
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CAL FIRE SINCE 1885
OES CALIFORNIA Governor's Office of Emergency Services

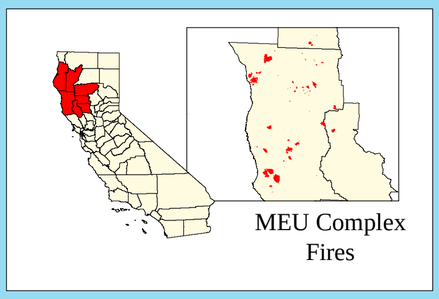
MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)

Fire Severity Overview Map

HUMBOLDT
TRINITY
TEHAMA
GLENN
MENDOCINO
COLUSA
LAKE

MAP 1
MAP 2
MAP 3
MAP 4
MAP 5
MAP 6
MAP 7
MAP 8
MAP 9
MAP 10
MAP 11
MAP 12
MAP 13
MAP 14
MAP 15
MAP 16
MAP 17
MAP 18

Wash
Travis 1
Cassoose Creek
Panther Basin
Bell Springs
Red Mountain Series
101
Red Hill
Blue Slide 2
Blue Nose
Pork Fire
Murphy Ridge
Lost Pine
Middle
Hardy Series
Dutch Charlie (MRC)
Little Juan Creek (MRC)
Burns Flat
Burger Creek
Shamrock
Shamrock West
Shamrock East
Brushy 1
Jamison
Brushy 4
Brushy 7
Brushy 5
Brushy 8
Butch
Cherry Creek
Folsom
Big
Back
Indian
Two Rock
Northfork Camp
Williams
Rideout
Jack Smith
Table Mtn
Navarro
Orr Series
Horse
Cavanaugh
Low Gap
Oso
Whipple
Cliff
Mallo Series
Sugarloaf
Jacks
River 2
River 1



Transportation
- Freeways
- Highways
- Primary
- Secondary
- MEU Complex Final Fire Perimeters

Fire Severity

Value
- High Severity
- Moderate Severity
- Low Severity
- Unchanged
- River

DPA Group
- Federal
- State
- Local
- County Boundary

BARC256 images:
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meu_complex_south_20080730
sodacomplex_20080722

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September 5, 2008
Sources FAMWEB 209s, BARC256
Active_Incident/Fires/2008/SEAT/MEU_Complex/
Projects/MEU_Fire_Severity_Maps/
MEU_Fire_Severity_Overview.mxd

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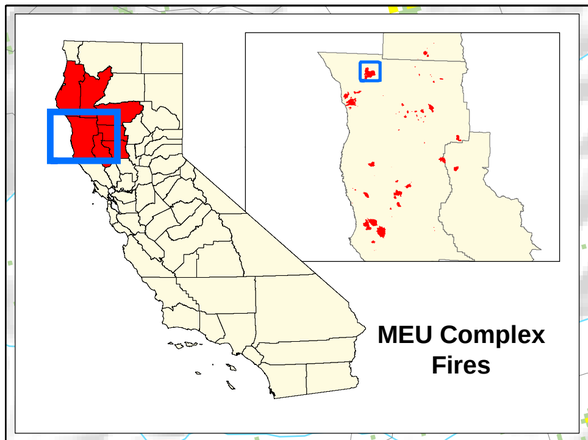

Bell Springs

BELL SPRINGS RD

Red Mountain Series

MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)

Fire Severity
Map 1

MEU Complex Final Fire Perimeters

Fire Severity

- High Severity
- Moderate Severity
- Low Severity
- Unchanged
- River

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road

Data Sources
Fire Perimeters: FAMWEB 209s
Fire Severity: USFS meu_complex_north_20080730_barc256
Rivers: California Dept. Fish & Game

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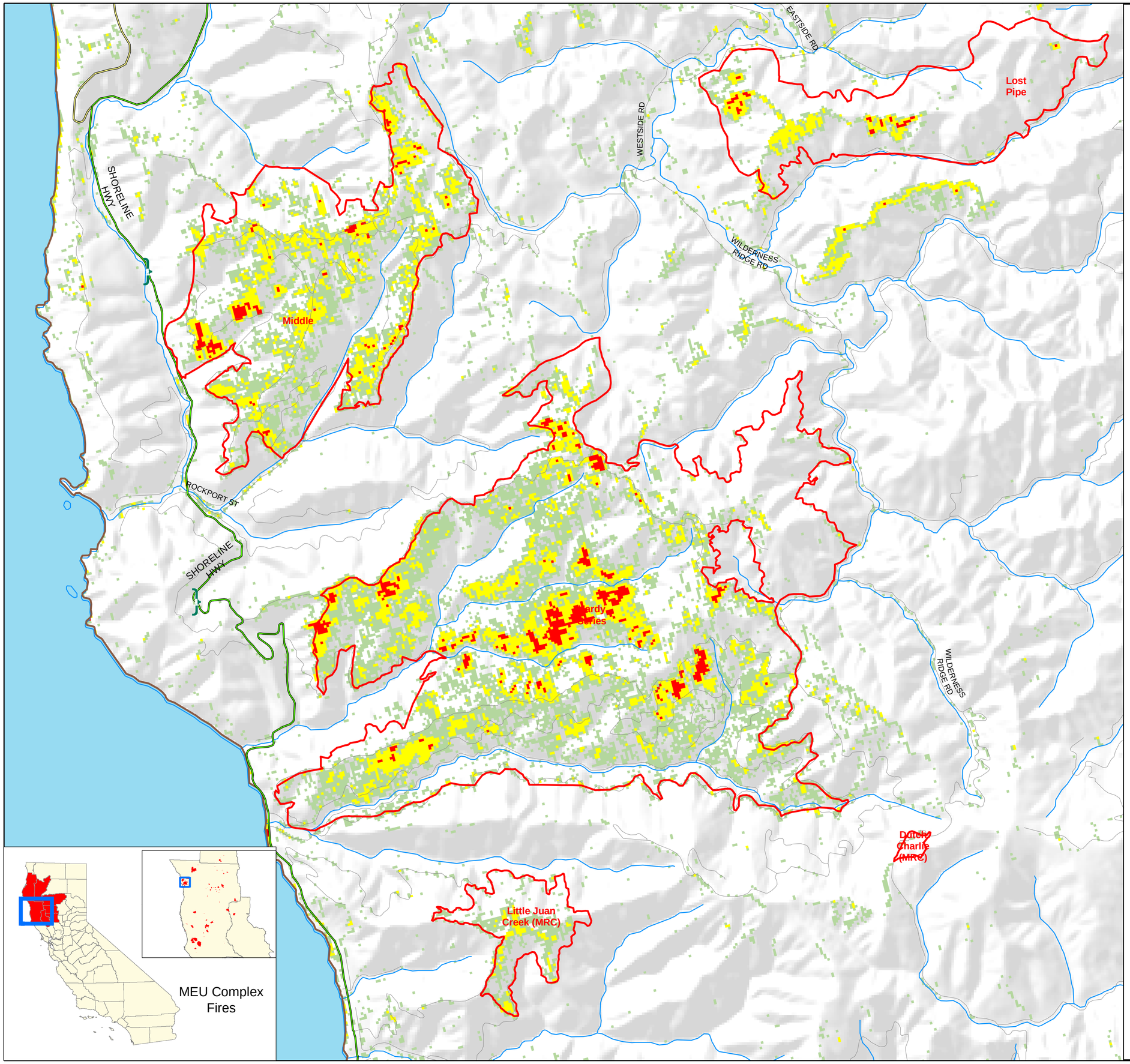
MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)

Fire Severity
Map 2



MEU Complex Final Fire Perimeters

Fire Severity

- High Severity
- Moderate Severity
- Low Severity
- Unchanged
- River
- Calif_mask_t_region

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road

Data Sources
Fire Perimeters: FAMWEB 209s
Fire Severity: USFS meu_complex_north_20080730_barc256
Rivers: California Dept. Fish & Game

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September 5, 2008
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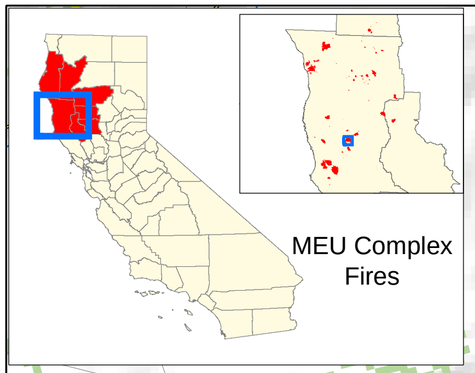
Governor's Office of Emergency Services



MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)

Fire Severity
Map 15

- MEU Complex Final Fire Perimeters
- High Severity
- Moderate Severity
- Low Severity
- Unchanged

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road
- DPA Group Boundary
- County Boundary
- River

Data Sources
Fire Perimeters: FAMWEB 209s
Sensitive Species: California Dept. Fish & Game (CNDDB)
Rivers: California Dept. Fish & Game

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Miles

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September 3, 2008
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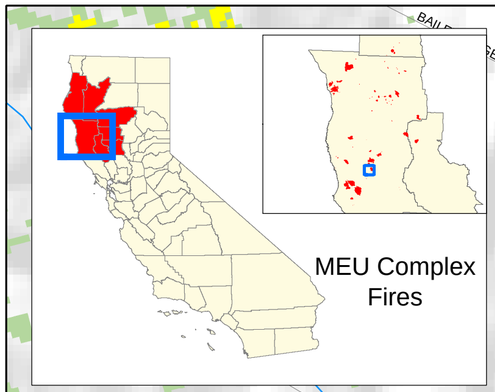

LOW GAP RD

MASONITE INDUSTRIAL RD

LOW GAP RD

LOW GAP RD

Low Gap

MENDOCINO

Oso

MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)
Fire Severity
Map 16

- MEU Complex Final Fire Perimeters
- High Severity
- Moderate Severity
- Low Severity
- Unchanged

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road
- DPA Group Boundary
- County Boundary
- River

Data Sources
Fire Perimeters: FAMWEB 209s
Sensitive Species: California Dept. Fish & Game (CNDDB)
Rivers: California Dept. Fish & Game

0 0.25 0.5 0.75 1
Miles

Created by OES-GIS, J. Kapellas
September 3, 2008
Active_Incident/Fires/2008/SEAT/MEU_Complex/
Projects/MEU_Sensitive_Species_Maps/
MEU_Sensitive_Species_Map_16.mxd

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OES CALIFORNIA Governor's Office of Emergency Services

MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)
Fire Severity
Map 17

CLIFF RIDGE RD

Cliff

MENDOCINO

Mallo Series

SIGNAL RIDGE RD

RID

MEU Complex Fires

- MEU Complex Final Fire Perimeters
- High Severity
- Moderate Severity
- Low Severity
- Unchanged

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road
- DPA Group Boundary
- County Boundary
- River

Data Sources
Fire Perimeters: FAMWEB 209s
Sensitive Species: California Dept. Fish & Game (CNDDB)
Rivers: California Dept. Fish & Game

0 0.25 0.5 0.75 1
Miles

Created by OES-GIS, J. Kapellas
September 3, 2008
Active_Incident/Fires/2008/SEAT/MEU_Complex/Projects/MEU_Sensitive_Species_Maps/MEU_Sensitive_Species_Map_17.mxd

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MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)

Fire Sensitivity
Map 18

Cliff

Mallo Series

Sugarloaf

MENDOCINO

Jacks

SIGNAL RIDGE RD

SIGNAL RIDGE RD

ADAMS RIDGE RD

MOUNTAIN VIEW RD

- MEU Complex Final Fire Perimeters
- High Severity
- Moderate Severity
- Low Severity
- Unchanged

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road
- DPA Group Boundary
- County Boundary
- River

Data Sources
Fire Perimeters: FAMWEB 209s
Sensitive Species: California Dept. Fish & Game (CNDDB)
Rivers: California Dept. Fish & Game

0 0.25 0.5 1 1.5
Miles

MEU Complex Fires

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September 3, 2008
Active_Incident/Fires/2008/SEAT/MEU_Complex/Projects/MEU_Sensitive_Species_Maps/MEU_Sensitive_Species_Map_18.mxd

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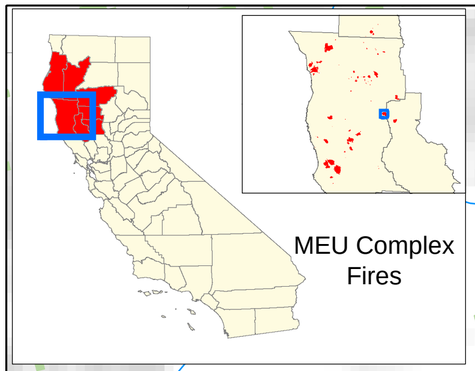

FOREST RT 19N45

Big

LAKE

MENDOCINO

VAN ARSDALE RD

RIDGEWAY HWY

MEU Complex
Mendocino County
Statewide Emergency Assessment Team (SEAT)

Fire Severity
Map 10

MEU Complex Final Fire Perimeters

Fire Severity

- High Severity
- Moderate Severity
- Low Severity
- Unchanged
- DPA Group Boundary
- County Boundary
- River

Transportation

- Freeway
- Highway
- Major Road
- Secondary Road
- Residential Road

Data Sources
Fire Perimeters: FAMWEB 209s
Fire Severity: USFS sodacomplex_20080722_barc256
Rivers: California Dept. Fish & Game

0 0.25 0.5 0.75
Miles

Created by OES-GIS, L. Anguiano
September 8, 2008
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Projects/MEU_Fire_Severity_Maps/
MEU_Fire_Severity_Map_10.mxd

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