Lime Complex and Yolla Bolly Complex
Strategic Implementation Plan

Fire Description

Incident Number: CA-SHF-001041/ CA-MNF-0663
Date/Time Prepared: 07/12/2008 0900
Jurisdiction(s): Shasta-Trinity National Forest /Mendocino National Forest
Geographic Area: Operations Northern California
Unit: South Fork Management Unit /Yolla Bolla Wilderness
Accounting or Management Code: P5D8HC/P5D85T

Fire Situation

Start Date/Time: 6/20/2008 1630
Current Fire Size: 80,000 + acres
Fuel Conditions
Lower Slopes - Grass, Brush, Oak - Light flashy fuels
Mid Slopes - Mixed conifer forest
Ridges - Heavy timber, mixed conifer forest

Generally lower than normal 1,000 hour fuel moisture levels exist in the lower elevations. The dry months of March and April have led to early curing of grass fuels in the lower elevations. Measured 1000 hour fuel moistures at Hayfork are between 10% and 13%. Calculated 100 hour fuel moistures at Friend and Yolla Bolly RAWS are 4%.

Low live and dead fuel moistures have created the potential for active to extreme fire behavior in many low to mid-elevation sites. Green leaf Manzanita live moisture levels have decreased since July 3 at all sites measured on the Hayfork District. On July 3 they were measured between 121% and 149%. On July 11 the corresponding sites had fallen to 112% and 122%. The Mendocino National Forest is reporting live fuel moistures on July 16 at approximately 60%.

Hazards and Safety Concerns

Safety Concerns	Description
Unburned Fuel	During indirect line construction, unburned fuels will exist between the fire and the firefighters.
Reburn Potential	The fires burned through fuels prior to full flush. As live fuel moistures peak and begin to fall, reburn potential increases.
Steep, difficult terrain	Travel in much of the fire areas is difficult and extremely fatiguing to firefighters. Roll out of burning fuels is a routine cause of fire movement.
Reduced visibility due to smoke	Aviation asset use is reduced thereby reducing fire detection and situational awareness.

Firefighter and public health	Smoke production coupled with high pressure systems result in smoke being confined into areas where firefighters are working and the public lives and recreates.
Marijuana Gardens	Gardens may be present in remote locations.
Travel on highways, county roads, and USFS roads	Narrow, winding roads coupled with firefighter traffic and the public.
Other fires in the surrounding areas.	Other fires contribute smoke, traffic, and fire behavior to the complex.

Resource Availability

National Preparedness Level 5
Northern California GACC Preparedness Level 5 - CALMAC is fully activated. Agencies are below drawdown levels. Class D and larger fires are common in one or both Coordination Centers. Either or both Coordination Centers cannot fill many outstanding resources requests and are sending these orders to NICC. Use of local government resources is common. Reassignment of personnel and resources between incidents is common. The National Guard has been activated.

Presidential Declaration of Federal Disaster Assistance - The President declared an emergency exists in the State of California and ordered Federal aid to supplement State and local response efforts in the area struck by wildfires beginning on June 20, 2008, and continuing.

Widespread lightning has caused numerous fires in northern California and suppression resources have been ordered from other states. IA, extended attack and transition to IMTs are continuing throughout northern California. Several small fires within the Lime Complex and elsewhere have been contained or lined.

Current and Predicted Fire Weather and Fire Behavior

See attached Appendix A.

Decision Summary

The Agency Administrator's direction is to utilize available resources to: 1. Protect local communities. 2. Protect outlying private property. 3. Protect Threatened and Endangered Species habitat, anadromous fisheries and wilderness values. 4. Minimize fire spread to other jurisdictions. Further direction includes containing groups of fires and fires that have merged geographically to minimize the threat to communities, life and property. Focusing suppression efforts to prevent spread in the direction of the identified priority values at risk.

Local communities and private property will receive the highest level of protection that can be achieved with available forces. A focused effort will occur to keep the fires within the boundaries of the National Forest system. Environmental impacts will be managed to the best

ability as additional resources become available.

Land and Resource Management Objectives

Late Successional Reserve
• All fire management activities will consider safety of personnel and the public as the highest priority.
• Minimum Impact Suppression Tactics (MIST) should be used whenever possible during all fire activities in LSR's, however mechanical fireline construction (dozer) will be permitted.
• Any firing techniques used as a suppression tactic will be designed to minimize fire effects on LSR habitat.
• Resource specialists will be consulted as available during wildland fire activities.
• Wildland fire occurring in areas of LSR adjacent to urban interface areas will receive an appropriate suppression response.

General Forest / Matrix / AWA
• All fire management activities will consider safety of personnel and the public as the highest priority.
• Forest investment protection (plantations and campgrounds, etc) will be a consideration during all project planning and WFSA's.
• Implement suppression strategies to provide the least possible adverse impact to cultural resources.
• MIST tactics are preferred in all FLRMP defined recreation areas and in Research Natural Areas (RNA).

Wilderness
• Firefighter and public safety are the highest priority for all fire management activities.
• Permit lightning caused fires to play, as nearly as possible, their natural ecological role within wilderness (FSM 2324.2).
• Reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or wildland fires that escape from wilderness (FSM 2324.2).
• Fire management activities should be done in a manner that is compatible with wilderness management objectives.

Wild and Scenic River Corridors (Eel and South Fork Trinity Rivers)
• Conduct fire management activities to minimize landscape alteration and land disturbance. • Utilize MIST where possible.

Riparian Areas
• Size and location of firelines should be consistent with MIST.
• Avoid using stream bottoms as improved or constructed control points when possible.
• Minimize fire intensity in burnout operations near streams when possible.
• Tractor lines, within 300 ft. with water; 100 ft. without water, should be avoided when possible.
• Avoid application of retardant, foams, and surfactants near live streams or lakes (300 ft). If chemicals must be used more closely than 300 ft. notify the Resource Advisor and Agency Administrator. Record type and volume of retardant drops.

Interface and Private Lands
• Maximize protection of interface areas and private lands.
• Promote cooperative relationships with other agencies and private landowners in order to assess and implement hazard reduction projects on both public and private lands.

Roadless
• New firelines or system roads opened with bulldozers in roadless areas will require State of California notification
• New firelines (not on system roads) need to be closed and barriers to prevent OHV use once fires are out
• Level 1 roads used for firefighting should be closed after fire is out

Relative Risk Assessment

The aforementioned factors leading to a very volatile early start to the northern California fire season has placed the north state in a very high risk situation. Specifically, the Lime Complex demonstrates the nature of the risk using the Wildland Fire Relative Risk Assessment (WFRRA) chart. (Appendix B)

Values – The WFRRA chart places the values at the border between moderate and high. As this is not an exact science, and given the proximity of the communities that are currently affected and the critical nature of the environmental issues of the Northwest Forest Plan, the tendency would be to place the Values component of the WFRRA process in the high category.

Hazard – Fire behavior, potential fire size and the fire regime place the current situation into High

Probability – This is an extraordinarily early fire season event. The lighting storm effects were exacerbated by the unseasonal drying that had been experienced. Natural barriers to fire spread are no longer effective with the current fuel loading and vegetation density. Hence, the combination of the three factors place this matrix into the High arena.

Relative Risk – Relative Risk is the combination of the above into the final determinant of Wildland Fire Relative Risk Assessment process. The current situation is a very high risk situation!!

Decision Support Information

The models from the Wildland Fire Decision Support System were the primary tools used for the basis of this Plan. Calibration and more in-depth analysis may be warranted as the summer continues on and more specific knowledge is required. Fire Spread Probability (FSPro) was used for determining the spread probabilities of specific fires. The attachments have more information of the results for the fires modeled. RAVAR (Rapid Assessment of Values at Risk) was used to further understand the property values at probable risk. The outputs for the RAVAR are also attached. Finally, RIVaT (Rapid Assessment of Values Threatened) is a new sub-routine of the RAVAR that can quickly assess potential threat to values based on predefined polygons of concern identified by the Incident Management Team. The RIVaT outputs are also attached.

Planning Area

There are two primary planning areas within the Lime Complex; the Lime and Miners area and the Yolla Bolly area. A third planning area could be completed on the remaining large fires within the complex including the Trough, Telephone, Noble, Deadshot, and Deerlick Fires. However, these fires are nearly 100% containment and are not being assessed at this time for long-term strategies.

Values at Risk for Lime and Miners Planning Area

An assessment of the values at risk within the planning was made using the new Rapid Inventory of Values Threatened (RIVaT-*beta*). Within the immediate planning area there are 13 structures identified with an assessed value of $2.1 million. Within a five mile radius the assessed values jump to $173.5 million. See attached RIVaT results. Additionally, infrastructure includes Hwy 299, Hwy 3, and Hwy 36, 13 miles of pipeline and 17 miles of powerlines.

Identifier	Value to Protect (immediately threatened or at risk)	Consequence of Damage or Loss (dollars, loss time, on-site, down stream)
V1	Friend Place	Loss of structures
V2	Graham Place	Loss of structures
V3	Hidden Valley Ranch	Loss of structures
V4	Indian Valley	Loss of structures
V5	Miller Place	Loss of structures
V6	McClellen Place	Loss of structures
V7	Forest Glen	Loss of structures
V8	John's Cabin	Loss of structures
V9	Communication Tower	Loss of communication
V10	Hayfork	Loss of structures
V11	Hayfork Watershed	Loss of habitat and watershed

Values at Risk for Yolla Bolly Planning Area

Identifier	Value to Protect (immediately threatened or at risk)	Consequence of Damage or Loss (dollars, loss time, on-site, down stream)
V12	Indian Dicks	Loss of structures
V13	Wilson Ranch	Loss of structures
V14	Shakleford Place	Loss of habitat
V15	Hammer Place	Loss of structures
V16	Eel River	Loss of habitat

Courses of Action

There are myriad combinations of situations that can occur based on fire behavior and fire fighting resource availability however, many of these scenarios are unrealistic due to the current availability of resources and active fire behavior. The scenarios considered for this planning are:

Scenario 1	Existing firefighting strength coupled with current fire behavior expectations
Scenario 2	Current and expected fire behavior coupled with a surge of firefighting resources.
Scenario 3	Fire behavior increases and fire fighting capability decreases - Contingency scenario

Actions and Assumptions:

Several assumptions for this planning area will be used while developing strategic options.

- Resource availability will continue to be reduced due to activity throughout the geographic area and increasing activity throughout the West.
- Safety of the firefighters is paramount and direct attack will be used whenever viable.
- Much of the landscape throughout the planning area is steep, rugged terrain which is dangerous and fatiguing for firefighters. Efforts will be made to minimize exposure of firefighters to long term exposure to this terrain.
- Minimum Suppression Tactics will be used in all Congressionally Designated Areas (eg. Wilderness, Wild and Scenic Rivers, RARE II Roadless Areas, and specified land allocations).
- Aircraft use and cost have not been calculated in the following scenarios.

Lime and Miners Planning Area

This is a priority area as Hyampom, Hayfork, and Forest Glenn are adjacent to both to these fires. These fires have proven to be tenacious and the recent weather has hampered efforts of achieving containment.

The Lime and Miners Planning Area (LMPA) is the compilation of two major fire groups. It lies west and northwest of the town of Hayfork. Hyampom is within several miles of the current perimeters.

The Lime and Miners Planning Area will be analyzed as two separate sub-planning areas as containment has been reached on several flanks of each fire.

Lime Sub-Planning Area:
Management Action Points – see attached map
Mitigation Actions – see attached table
Resources Needed - see attached table

Miners Sub-Planning Area
Management Action Points – see attached map
Mitigation Actions – see attached table
Resources Needed - see attached table

Yolla-Bolly Planning Area

This area is comprised of the Yolla Bolly Wilderness and adjoining jurisdictions. Wilderness values should be unaffected by fire but may be harmed by suppression tactics. However, Threatened and Endangered Species habitat will be affected by high intensity crown fire. Mad River and Ruth Lake are west of this planning area and may be potentially affected by fire.

This planning area is the compilation of several fires some of which are within the wilderness area. This initial plan will focus on Yellow and Vinegar Fires.

Management Action Points – see attached map
Mitigation Actions – see attached table
Resources Needed – see attached table

Budget

The WFSA preferred alternative for the Shasta-Trinity National Forest identified an expected cost of $81,600,000 with acreage of 170,000 acres. The Mendocino National Forest WFSA preferred alternative identified an expected cost of $22,000,000 with acreage of 40,000 acres. This is early in the fire season for a fire of this significance. There is a hope that the final outcome does not approach that level of expenditure nor acres burned. The fire season still holds the uncertainty of what lies ahead. Nonetheless, the following budget scenarios are an expression of the IMTs planning based on the facts known to date.

Spent to date (July 16, 2008, 0700 hours): $25,663,000

Education and Information Plan

- Plan for the possibility of a long-term wildland fire event and the communication needs and expectations required for this potential circumstance.
- Provide a coordinated approach to communications associated with management of the Incident to the public, agency personnel, elected officials, cooperators, news media, and other identified internal and external audiences.
- Provide current, accurate and timely information using a variety of communication methods, including but not limited to internet, community meetings, briefings, media tours, and operation of the joint information call center.

Reassessment

This Strategic Implementation Plan is an ongoing effort and should be re-evaluated frequently. If resource availability or fire behavior changes outside of the identified scenarios for any of the planning areas, further scenarios should be developed. The Wildland Fire Relative Risk Assessment and the Incident Complexity Analysis should be completed during changing conditions to re-evaluate implementation.

Signature _____ **Date** _____

Lynn Wilcock, Alaska Team Incident Commander

Signature _____**Date**_____

Jim Loach, Area Commander

Signature _____ **Date**_____

J. Sharon Heywood, Forest Supervisor

Appendices

A. Current and Predicted Fire Weather and Fire Behavior
B. Wildland Fire Relative Risk Assessment and Strategic Implementation Plan Needs Assessment Chart
C. Lime Sub-Planning Area Courses of Action
D. Miners Sub-Planning Area Courses of Action
E. Yolla Bolly Planning Area Courses of Action
F. Modeling Report, Long-Term Assessment, outputs

Appendix A

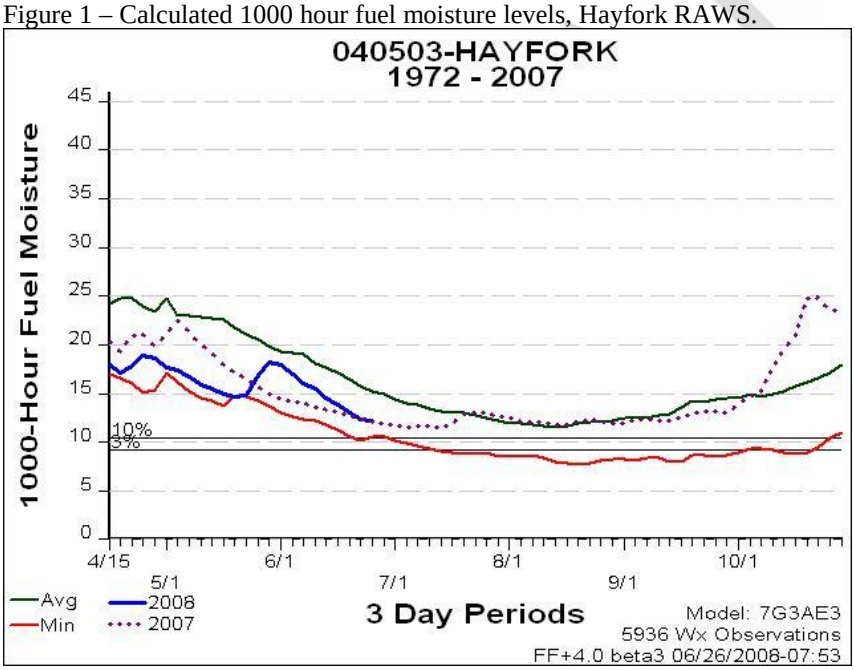
Fire Behavior - Current and Forecast

Fire behavior is variable over the complex. Currently fire spread is through a combination of creeping, surface fire spread, torching, and short to medium range spotting. Spotting has led to the highest spread rates, contributing to a one hour, 1.25 mile run in heavy timber parallel to the South Fork Trinity River on July 10. All surface fuels are burning and the green vegetation is becoming an active part of the fuel mixture. Where ladder fuels exist single and group torching has occurred on a regular basis. This has transitioned into passive crown runs supported by the surface fire.

Smoke from this and other fires has tempered fire behavior somewhat by providing some shading and relief from high temperatures. Where there are breaks in the smoke the fires have been very active. Since July 9, fires in this and adjacent complexes have had regular, short-term transitions to plume influenced fire behavior, with columns reaching over 25,000 ft for periods of one to two hours.

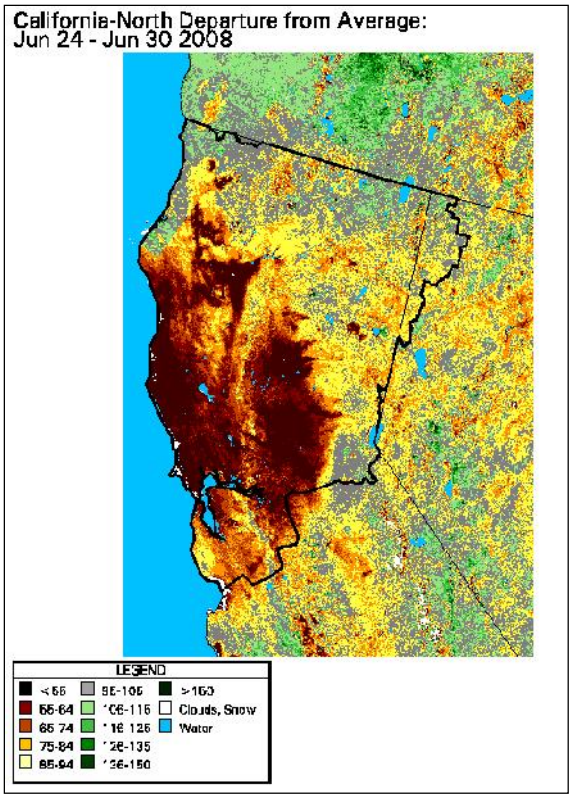
As seasonal drying continues all fuel types will become able to fully support very active fire behavior. High rates of spread, active torching and crowning, and large plume dominated fires will become typical on this complex.

Figure 1 – Calculated 1000 hour fuel moisture levels, Hayfork RAWS.



Fire Danger

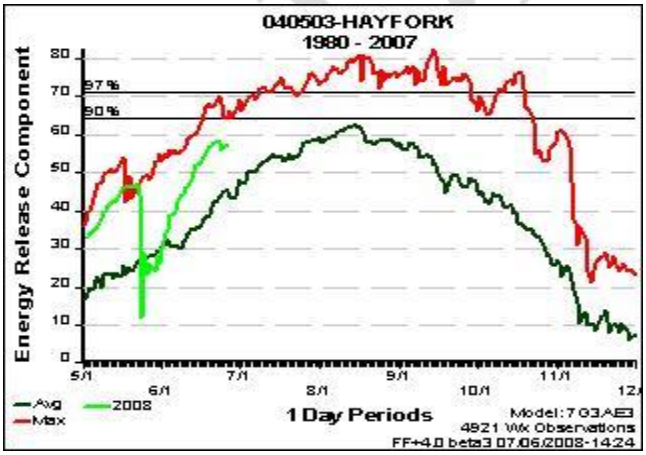
Live fuels are currently no longer acting as a heat sink at high elevations, while at lower elevations herbaceous vegetation has cured. Below normal amount of new growth, which normally acts to retard fire behavior, is resulting in a greater contribution to fire spread due to the change in live to dead fuel ratios. Both live and dead fuels are ahead of their typical dryness time frames by one to two months, and in some cases fuels are record-setting dry. The Departure from



Average Greenness map graphically illustrates the drier than normal condition of the fuels throughout most of the northern California area indicated by the yellow and brown colors.

Figure 2. Northern California is significantly departed from normal greenness.

Energy Release Component (ERC) values for the local RAWS are on an upward trend (see examples). ERC values are above normal for the date. The Hayfork Remote Automated Weather Station (RAWS) represents the lower elevations of the fire, and set new highs for ERC in May and is now approaching the 80th percentile for the season. The high elevation is represented by Friend Mountain RAWS and did approach the all time record in May and is currently at approximately the 60th percentile.



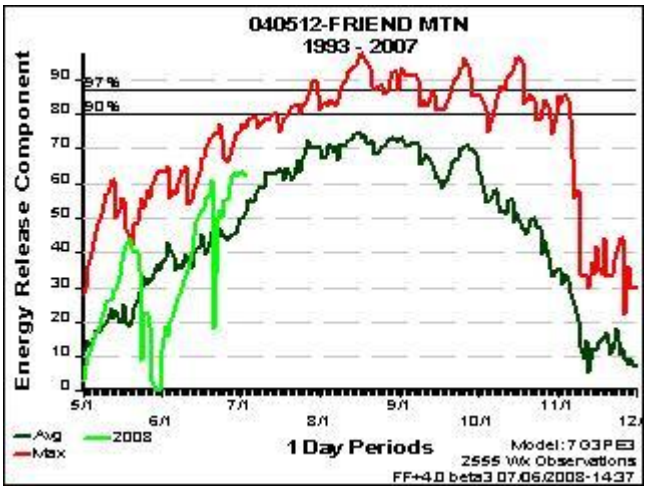


Figure 2. Seasonal ERC graph for Hayfork and Friend Mtn showing maximum and average values compared to 2008 to date.

30 Day Outlook

Weather

Little or no precipitation is forecasted for July. Temperatures for July are expected to be near normal to slightly above normal. July averages six days in which temperatures in the Redding area are 100 degrees. Northeast wind events are not typical between July 4 and Labor Day. There are nine to twelve days of possible thunderstorm events (mostly dry) expected for the month of July; more than last year. Smoke may affect the weather.

Fire Danger

Expect currently green brush and forbs at higher elevations to cure early and contribute to fire activity by mid-July. ERC values are rising and are expected to continue upward. 1000-hr fuels are drying and are expected to continue this trend. Live woody fuels will fall to critical moisture values earlier in the year than normal.

Fire Behavior

Expect increased fire intensities and spread rates as ERC values rise. There is an 80 -100% probability that fires in close proximity would grow together without suppression actions Fires close to the west side of the valley are more likely to have fire spread influenced by localized wind events. Smoky conditions can cause slightly cooler temperatures, moderating fire behavior, however, limited visibility may also obscure hot spots.

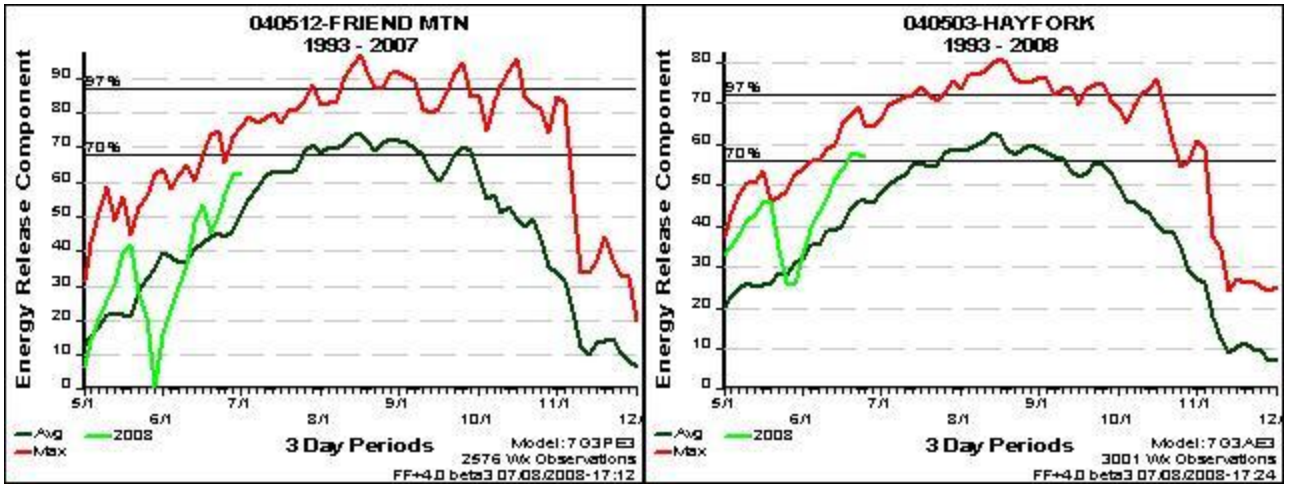
Seasonal Outlook

Weather

The Drought Monitor forecast shows the drought persisting or worsening over the season. Extended-range forecasts show little rainfall across California and the state is unlikely to experience significant improvement during the ongoing dry season. Local, terrain driven winds typically predominate during August with a reduced potential for strong pressure gradient winds. August is typically as warm as or warmer than the month of July. The potential for wind events associated with frontal passages increases later in the season. The effects of smoke may have more of an effect on the weather as the season progresses. The Climate Prediction Center (CPC) outlook shows some probability of below normal temperatures for coastal areas from August through October and above normal temperatures for the North Sierra Predictive Services Area (PSA). The CPC outlook shows some probability of below normal precipitation over most of northern California.

Fire Danger

On average throughout northern California, ERC peaks by mid-August then starts trending downward. Historic maximum ERC values have exceeded the 97th percentile as late as mid-



ERC 70% Ave - 9/27 Extreme 11/4 ERC 70% Ave - 9/7 Extreme 11/4

October. Shorter day length and diminishing sun angle results in cooler temperature and higher humidity, which should begin to lower the potential for large fire growth in September and October. Analysis of fire and weather records over the past 20 years using Fire Family Plus (ver. 3.0.5) indicates that few large fires (>300 acres) occur below the 70th percentile ERC, especially toward the end of the fire season.

Fire Behavior

The Northern California Seasonal Outlook projects above normal potential for large fires over much of the geographic area between July and October due to record low precipitation to date and early drying of live fuels.

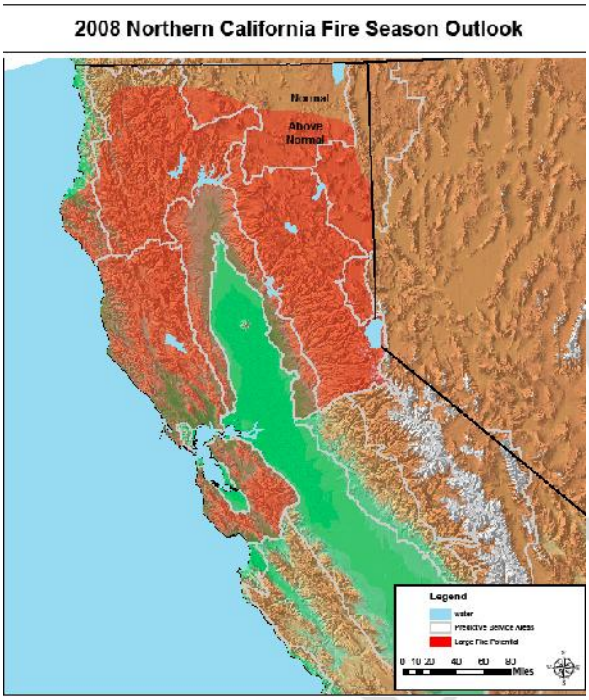
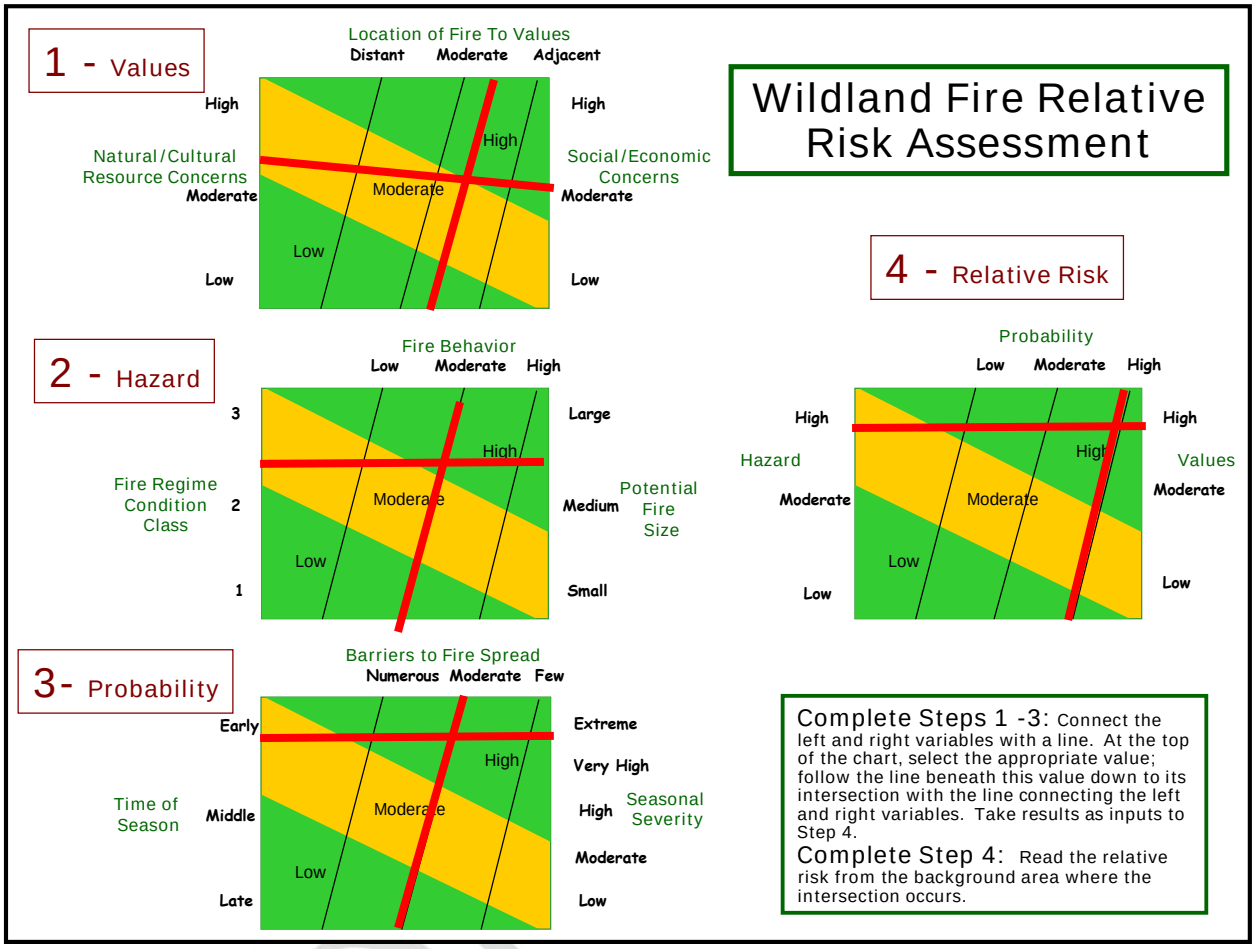
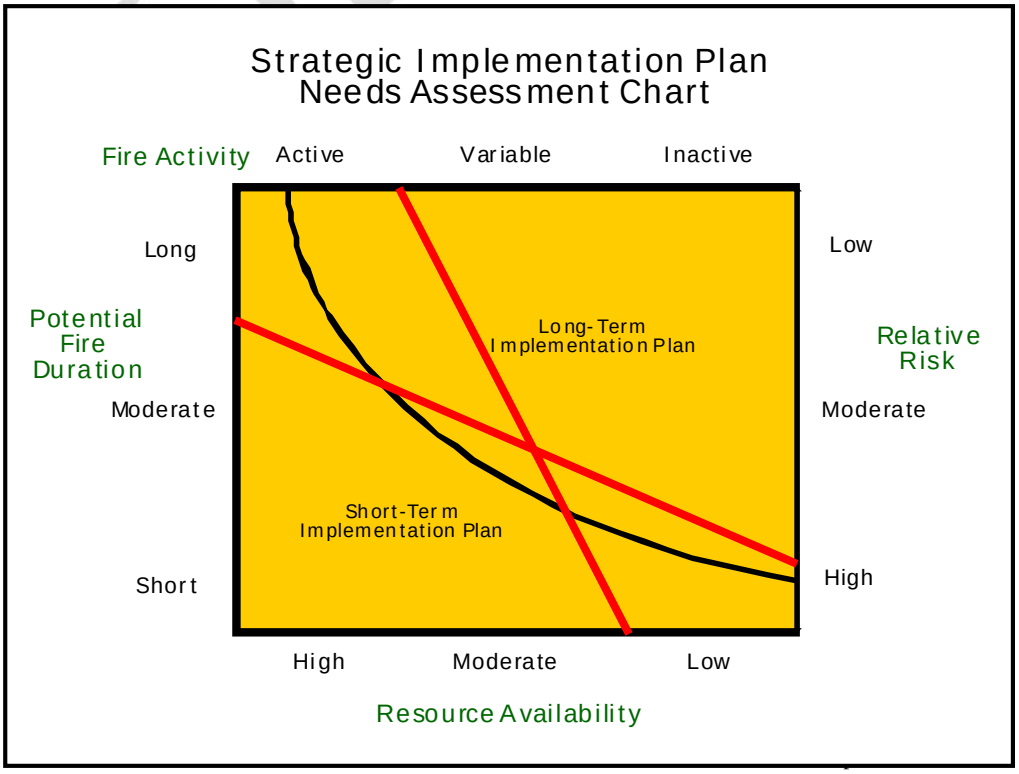


Figure 5. Above normal large fire potential indicated by red areas

Foehn wind events in September and October will increase the potential for large, wind-driven fires in the lower elevations. Continuing drought conditions will allow for high probability of ignition, increased fire intensity, and significant crowning and spotting potential.

Appendix B


1 - Values
Location of Fire To Values
Distant Moderate Adjacent
High
Natural/Cultural Resource Concerns
Moderate
Low
High
Moderate
Low
High
Social/Economic Concerns
Moderate
Low
Wildland Fire Relative Risk Assessment
4 - Relative Risk
2 - Hazard
Fire Behavior
Low Moderate High
3
2
1
Fire Regime Condition Class
Large
Medium
Small
Potential Fire Size
Probability
Low Moderate High
Hazard
Values
3- Probability
Barriers to Fire Spread
Numerous Moderate Few
Early
Middle
Late
Time of Season
Extreme
Very High
High
Moderate
Low
Seasonal Severity
Complete Steps 1 -3: Connect the left and right variables with a line. At the top of the chart, select the appropriate value; follow the line beneath this value down to its intersection with the line connecting the left and right variables. Take results as inputs to Step 4.
Complete Step 4: Read the relative risk from the background area where the intersection occurs.


Strategic Implementation Plan
Needs Assessment Chart
Fire Activity
Active
Variable
Inactive
Long
Potential Fire Duration
Moderate
Short
Low
Relative Risk
Moderate
High
Long-Term Implementation Plan
Short-Term Implementation Plan
High
Moderate
Low
Resource Availability