

Labrador Fire – OR-RSF-130003
Rogue River-Siskiyou National Forest
Long-term Assessment and Implementation Plan

PNW Long Term Fire Assessment Team



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Executive Summary

- **Character of 2013 Fire Season:** The 2013 fire season in southwestern Oregon thus far can be characterized as unusually warm and dry, with an extended dry period through July, causing fire danger indices to track a couple of weeks ahead of normal. A recent period of cooling and moist air has brought fire danger indices to below the normal range, but the mid-term projection is for a return to well above normal fire danger. The longer term projection is for above normal temperatures and near normal precipitation. Most fire seasons locally are over by mid-October, about 65 days from now.
- **Fire Activity and Fire Behavior** – After several days of rapid fire growth, the Labrador Fire has been held in check by a variety of factors – primarily a change in weather (cooler, moister and with little wind) and a change in available fuels as the fire has already covered most of the area of higher fuel loading. Future fire growth should be slower, and/or less intense, in lighter and less continuous fuels left after the Biscuit Fire of 2002.
- **Evaluation of Current Strategy:** The current strategy of confining the Labrador Fire to the west and south of the Illinois River is a sound strategy, well supported by the existing analysis in that it protects the identified values at risk while managing risk to firefighters. One consequence of this strategy is that the fire will continue to burn in very rough, dissected terrain, producing smoke and generating interest until a season-ending weather event. The fire will be burning at low to moderate intensity in an area burned by the Biscuit Fire – with standing and downed dead trees and brush and grass that has regrown in the intervening 10 years.
- **Long Term Plan:** The Long Term Implementation Plan (LTIP) includes recommendations for fire containment lines, or “prospects”, away from the current fire perimeter. These prospects can be used to contain a spreading fire, and for each prospect a set of actions is recommended once the fire reaches an intermediate trigger point (or “management action point, MAP”). For each prospect, the costs, risks, and purposes of each are displayed in the LTIP. Short term and mid-range fire behavior modeling suggests that the fire is not likely to reach any of these prospects soon, if at all, so the aggregate of these prospects should not be thought of as defining the eventual fire perimeter.
- **Threats to Values at Risk:** Of the identified values at risk, private lands along the Illinois River near the fire are at most risk. Work completed thus far has substantially reduced this risk and the preparations and plans have given crews safer places to work at defending these properties. The fire is likely to continue to spread west and south, potentially reaching Klondike Creek, which is classified as critical coho salmon habitat.
- **Remainder of Season** – Anticipate a return to normal burning conditions in the next 10 days to two weeks. The fire should be expected to burn into October. Most fire growth will occur on relatively few days during the season; these days will be warm, dry days, with atmospheric instability, poor overnight humidity recovery, and typically with an easterly flow. These conditions typically occur during 2-3 episodes in the late summer and early fall.

Introduction

The Labrador Fire was first detected on the morning of July 26, 2013 in the Labrador Creek drainage near the Illinois River on the Rogue River-Siskiyou National Forest. The fire is burning in an area burned by the Biscuit Fire of 2002, with abundant standing and downed dead trees, brush, and grass. Initial attack crews were not able to work the fire safely with direct attack because of the terrain and the standing dead trees which would catch fire, fall over, and roll down slope starting new spot fires below the crews. Consequently, an indirect approach was selected, focusing on protecting values at risk, using natural fire spread barriers, and preparing contingency containment lines on safer ground well away from the fire location.

A Type 2 Incident Management Team (Oregon Interagency Team 2) began managing this fire on July 28, and focused their efforts on developing the potential indirect containment lines, often using the same containment lines used in the Biscuit Fire. By the morning of July 29, the fire had progressed to an estimated 870 acres, moving mostly upslope and to the south, as well as along the west side of the Illinois River. On August 1, crews successfully contained spot fires that had started across the Illinois River, while the fire grew to 2020 acres. For the 7 days since August 1, fire growth has been minimal. The fire has held up along the Illinois River, and the south flank has bumped into an area of lighter and more scattered fuels. The west flank has reached the bottom of Nome Creek and has generally held there.

The PNW Long Term Assessment team arrived on August 6, and began an analysis of current and anticipated future fire behavior, fuels conditions, and weather, as well as a long term plan for management of the fire for use during the remainder of this fire season. This document is the result of that analysis and planning.

Objectives and Risk Assessment

This long-term assessment and implementation plan is intended to evaluate, validate and implement the selected Wildland Fire Decision Support System (WFDSS) Course of Action for the Labrador Fire on the Wild Rivers Ranger District of the Rogue River-Siskiyou National Forest. Objectives for this assessment come from the WFDSS, based on the Siskiyou NF Land Management Plan, the SW Oregon Interagency Fire Management Plan, and plans developed by agency administrators specific to current local socio-political and economic concerns.

The information presented in this plan includes an assessment of the risks that the fire presents to valued resources as well as a preliminary plan for their protection. Each of the actions that the plan would recommend must be validated prior to implementation to account for changes in weather, fire spread, and resource availability, recent experience with similar actions, or other factors that may alter the need for action.

It is essential that this plan be updated as weather changes, fire spread continues, and new information becomes available. The projections are generally based on a 14 day assessment, and in some cases for up to 45 days, with less confidence associated with more distant projections. We recommend a periodic reassessment of projections on at least a 14-day timeframe.

The following objectives were provided to the Long Term Assessment team by the Forest Supervisor on August 6, 2013:

1) Do your part to protect public and firefighter safety by recommending appropriate actions and strategies, implementing LCES appropriate for your assignment, and managing fatigue within your team

2) Develop a long term assessment of the Labrador Creek Fire, including a projection of fire growth, risk assessment, estimate of costs, and recommendations for future actions and their associated triggers

3) Base your recommendations on my priorities for firefighter and public safety, recognizing and respecting the values of our neighbors and land management partner agencies, and managing fire to restore/maintain ecosystem processes within the Rogue River-Siskiyou National Forest.

4) Work with the SWOR MAC-Support Group, the IMT (Oregon Team #2 Bret Fillis) and the local unit to help provide for protection of cultural, historic, developed sites, and other resource values indicated in the Rogue River-Siskiyou National Forest (RSF) Fire Management Plan and RSF Land and Resource Management Plan or as requested by Agency personnel.

Over the course of the work of the LTAT, and as we interacted with Forest and District staffs and the Incident Management Team, several key questions arose. We focused our assessment on the objectives and these key questions:

- What conditions (fuels, weather, topography) have driven fire movement thus far? Why has fire spread stopped over the past week?
- How will fire move through fuels in areas burned in past 25 years?
- How much longer will this fire burn, and where will it be by the end of the season?
- What are the options for indirect attack on this fire? What are the thresholds and triggers for future actions?
- When can road closures be lifted safely? Where?
- Are there opportunities to engage the fire with direct attack in a safe manner?
- What is the threat to Values at Risk?
 - Private lands and structures to East
 - Emily Camp
 - Pearsoll Peak Lookout
 - Klondike Creek – coho salmon habitat
 - Briggs Creek Mines
- What weather events can trigger fire growth events? How can they be anticipated and communicated?
- What will be the future smoke impacts to Cave Junction, Selma, Grants Pass? How can they be anticipated and communicated?

Risk Assessment Considerations

The Risk Assessment is intended to evaluate the risk of fire spread to values that have been identified by the local managers, and when appropriate evaluate the impact that the fire would have on those values at risk. A Strategic Risk Assessment (SRA) was completed by the local unit and Incident Management Team as part of the WFDSS process during the extended attack period. This SRA identified the following Values at Risk, some of which have been modified as better information became available:

- Public Safety, Firefighter Safety and Exposure
- Private property and structures, including Oak Flat, McCaleb Ranch
- Botanical Resources
- Kalmiopsis Wilderness
- Anadromous Fisheries, including coho salmon habitat in Klondike Creek
- Habitat of northern spotted owls, bald eagle, and osprey
- FS Campground to the northeast (Sam Brown CG)
- Active mining operations, including Briggs Creek mining properties
- Port-Orford cedar (POC) in several draws within the fire area. Risk of root disease infection from suppression activity vectors.

The order of values in the above list is not intended to indicate any priority.

Fire Containment Prospects and Management Action Points (MAPs)

- Key Question: What are the options for indirect attack on this fire? What are the thresholds and triggers for future actions?
- Key Question: What are the thresholds or triggers for reopening the Illinois River road?
- Key Question: What are the triggers for closing any wilderness trails?

Based on the LTAT findings, we feel like the Illinois River (4103) and 4105 Roads can be opened at this time. See MAP 1 description for considerations to reclose the roads.

At this time there is no need to close any further trails in the Wilderness.

- Key Question: Are there opportunities to engage the fire with direct attack in a safe manner?

Much of the area of the fire was burned intensely by the Biscuit Fire in 2002, leaving a high density of standing dead trees. The Labrador Fire is causing many of these decaying, dead trees to fall as they burn, creating a serious hazard to ground crews both as they fall and as they roll downhill, spreading fire as they go. The initial attack crews, extended attack organization, and Type 2 IMT all evaluated the opportunity to engage the fire with direct attack and concluded that such an operation was not safe. The LTAT concurs with this conclusion (see Figure 1).



Figure 1: abundant snags in area burned by Biscuit Fire in 2002 creates a dangerous environment for ground crews

Labrador Management Zones- The area west of the Illinois River will be within the west Management Zone and the area east of the Illinois River will be the east Management Zone.

Appendix B contains the detailed long term implementation plan, describing the prospects and management action points.

Labrador Management Action Points (MAPs)

A **Management Action Point** is a condition or geographic location that, once the fire reaches the location, initiates an action, decision, or reevaluation of a prior decision. MAPs are often referred to as a “trigger point” implying that an action is triggered.

West MAP 1- Description-Starting at the Illinois River follow the road in Section 29, west to Chrome King Mine, then west along ridge to Gold Basin Butte.

Proposed Action(s)/Considerations- If fire crosses MAP and suppression action is unsuccessful within the first operational period:

- Consider structure protection on Pearsoll Peak Lookout and other values at risk.
- Consider checking action on fire edge along river, if appropriate.
- Consider implementation of Prospect 1A.

- Consider re-closing the Illinois River Road below the 4103 and 4105 junction.
- Consider re-evaluation of Incident Complexity and Management

Values at risk adjacent to MAP- Pearsoll Lookout, McCalebs Ranch, Swinging Bridge.
Potential values at risk further south- Hoover Gulch RNA, Private inholdings, Fiddler Mtn. Communication Towers

West MAP 2-Description- Starting at the Illinois River near Tin Cup Pass, follow the Josephine/Curry County line southwest to Gold Basin Butte. From Gold Basin Butte follow Wilderness Boundary to its intersection with the 4201 road.

Proposed Action(s)/Considerations-If fire crosses MAP:

- Consider point protection of values at risk within and adjacent to the Wilderness in the areas west of the MAP.
- Consider further evaluation and prep work in areas south of Prospect 1A and north of Prospect 3.
- Consider re-evaluation of Incident Complexity and Management
- Consider re-evaluation of overall strategy if fire breaches MAP.

Values at risk adjacent to MAP- Coho habitat in Klondike Creek, Emily Camp.
Potential values at risk further west- Game Lake, Quail Prairie Lookout, private lands.

East Map 2A- Description- Follow the Illinois River to the Northwest (down river) from the area of the road junction of the 4105 and the 4103 roads (Sec. 2) to Oak Flats and Briggs Creek.

Proposed Action/Considerations- If fire crosses MAP and suppression action is unsuccessful after the first operational period:

- Consider implementing Prospect 2A.
- Consider evacuation of private inholdings at Oak Flat and public along Illinois River Road.
- Consider re-closing Illinois River road.
- Consider re-evaluation of Incident Complexity and Management.

Values at risk adjacent to MAP-Oak Flat private inholdings, Store Gulch, Swinging Bridge, Briggs Creek CG, private inholdings at 6 Mile Rapid.

East MAP 2B-(Map 2B and Prospect 2A share the same boundary) From the junction of the 046 road (Sec. 24 near Spaulding Pond) follow the dozer line down ridge to the major switchback (Sec 24) in the 4105 road, follow the 4105 road to the 4105 and 4103 junction, then following the Illinois River from the area of the 4105 and 4103 road junction up river to Kerby Flats in Section 7.

Proposed Action(s)/Considerations- If fire crosses MAP and suppression action is unsuccessful after the first operational period:

- Consider implementing Prospect 2B.
- Consider re-evaluation of Incident Complexity and Management

- Consider re-closing 4103 road at Forest boundary.

Values at risk adjacent to MAP- Private in holdings at Shade Creek, private lands near East side of Forest boundary in Sections 32 and 33.

Potential values at risk further north- Spaulding Pond CG.

East MAP 3- Description- Following the Illinois River from Oak Flats and Briggs Creek down River to the confluence with Silver Creek.

Proposed Action(s)/Considerations- If fire crosses MAP and suppression action is unsuccessful after the first operational period:

- Consider implementing Prospect 3.
- Consider reevaluation of Incident Complexity and Management

Adjacent Values at Risk- Briggs Creek CG

Potential Values at Risk further North- Agness, Oak Flat, Cohners Place, Chrome Ridge Botanical Area.

Labrador Containment Prospects

A **Prospect** is a containment feature on the ground where a specified suppression action will take place. It is generally tied to a Management Action Point that will initiate the Prospect action.

Containment Prospects (potential containment lines) were identified by the team to contain the Labrador Fire as well as future fires within the area. Each Prospect includes:

- an objective
- conditions that may be present during the action
- activities to be implemented
- probability of success of the actions
- resources needed to implement the actions
- cost
- consequences of not implementing the action

All of the listed Prospects have a burnout component to increase the probability of success. Each Prospect can either be implemented in its entirety or a section at a time. This decision should be based on fire behavior and projected time for fire to reach Prospect line. Cost estimates are based on the operational cost of the Prospect, *not including overall support costs*.

The work that the Northwest Incident Management Team 2 has completed prior to the arrival of the LTAT has been incorporated into the Management Action Points and Prospects section. An attempt has been made to keep the original naming convention consistent.

Prospect Descriptions

West Management Zone Prospect

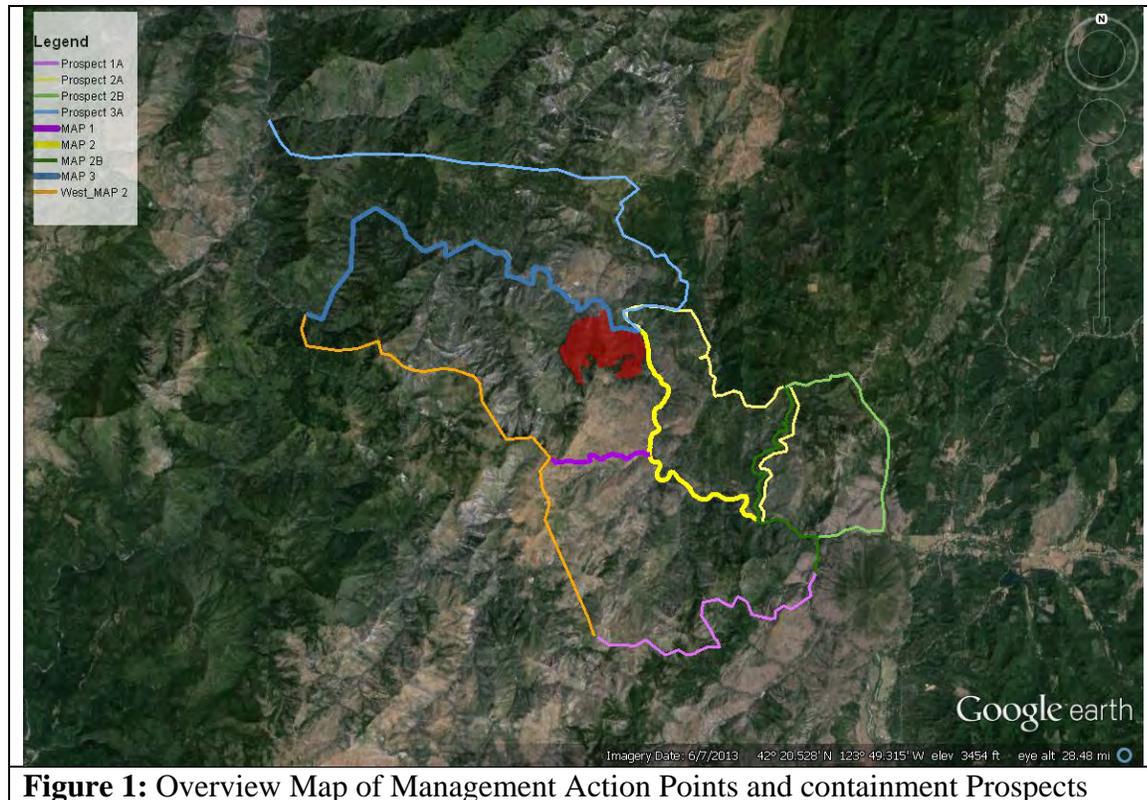
WEST Prospect 1A-Description-From the junction of the 4201 road and the Kalmiopsis Wilderness boundary, follow the 4201 road east to the major corner in road in Section 24. Follow ridge to northeast with dozer line to junction with 023 road. Continue northeast along ridge to the Illinois River in Section 18.

East Management Zone Prospects

EAST Prospect 2A –Description-From the 4105 and 4103 road junction, follow the 4105 road north to the major switchback in Sec. 24. Follow dozer line north to the 046 road junction in Sec. 24 (near Spaulding Pond), follow the dozer line west along ridge to the junction with the 4105 road. Continue along 4105 road to the northwest to Brushy Bar and the 4103 and 4105 road junction. Follow the 4103 down to Briggs Camp and Oak Flat along the Illinois River.

EAST Prospect 2B- Description-From Kerby Flat in Section 7, follow the 4103 road to the Forest boundary, then, continue along the 4103 to the junction of a private road in Section 9. Follow the private road north to the completed dozer line in Section 33. Continue north along dozer line to road 015, then follow Squaw Ridge using roads and constructed line to the Benchmark 4601' on the Section 17 and 20 line. Follow the ridges, the 2524 road and constructed lines west to the 046 road junction in Sec. 24 near Spaulding Pond.

East Prospect 3- Description- (Shares the same line as Prospect 2A along the 4103 Road from Oak Flat to Brushy Bar) Follow the 4130 road north from Oak Flat to Brushy Bar. From Brushy Bar and the 4105 road follow ridge north in Section 4 to the 702 road. Follow the 702 to the 675 road. Continue north following the 675 road to the 642 road in Section 30. Follow the 642 road west to Chinaman Hat. Continue West on main ridge, following ridgeline to the confluence of Silver Creek and the Illinois River.



Fire Behavior

Observed Fire Behavior

- Key Question: What conditions (fuels, weather, topography) have driven fire movement thus far? Why has fire spread stopped over the past week?

The Labrador Creek Fire is generally burning on north and eastern-facing slopes immediately southwest of the Illinois River, across the river from private lands on Oak Flat. The Labrador fire started in the early morning of July 26, 2013 after a sustained period of hot and dry weather. During the week prior to the Labrador fire temperatures ranged from the mid-80's to around 90 degrees, with low daytime relative humidity and poor recovery at night.

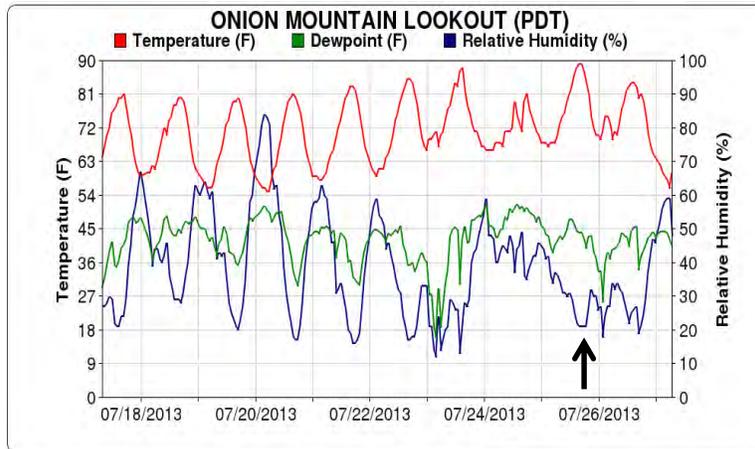


Figure 3: Temperature/RH trace for Onion RAWs immediately prior to start of Labrador Fire

The initial lightning episode ignited several other fires in the local area, which have contributed the strong presence of smoke across southwestern Oregon. Initially, the Labrador fire exhibited rapid surface spread with torching, spotting, and upslope movement. After the fire established itself on the ridgeline south of Panther Bar between the Illinois River and Nome Creek, a transition to a backing fire behavior occurred. Progressive backing fire with slope reversals has been the typical pattern of fire behavior and spread as the fire has spread south into Baker and Salmon Creeks, with limited spread along Nome Creek. Fire spread has been strategically moderated through use of heavy helicopter bucket use.

Surface fire spread has been fairly benign for the past several operational periods for a number of reasons, including the shading effect of smoke from neighboring fires, the lack of an organized wind field, suppression action utilizing helicopter bucket drops, and lighter fuel loadings as the fire reached areas that were severely burned in 2002, or that support sparse vegetation on serpentine soils, or both. Current burning is confined to pockets of heat in fuel rich areas of Baker, Salmon, and Nome Creeks, and interior heat is present throughout the area. At present, the fire is approximately 2020 acres, with scattered pockets of residual heat throughout, with less heat toward northern flank due to suppression activity and sparse fuels. It is expected that the fire will retain areas of heat that may serve as sources of fire spread at some point in the future (Steve Ziel – FBAN, 8/5/2013)

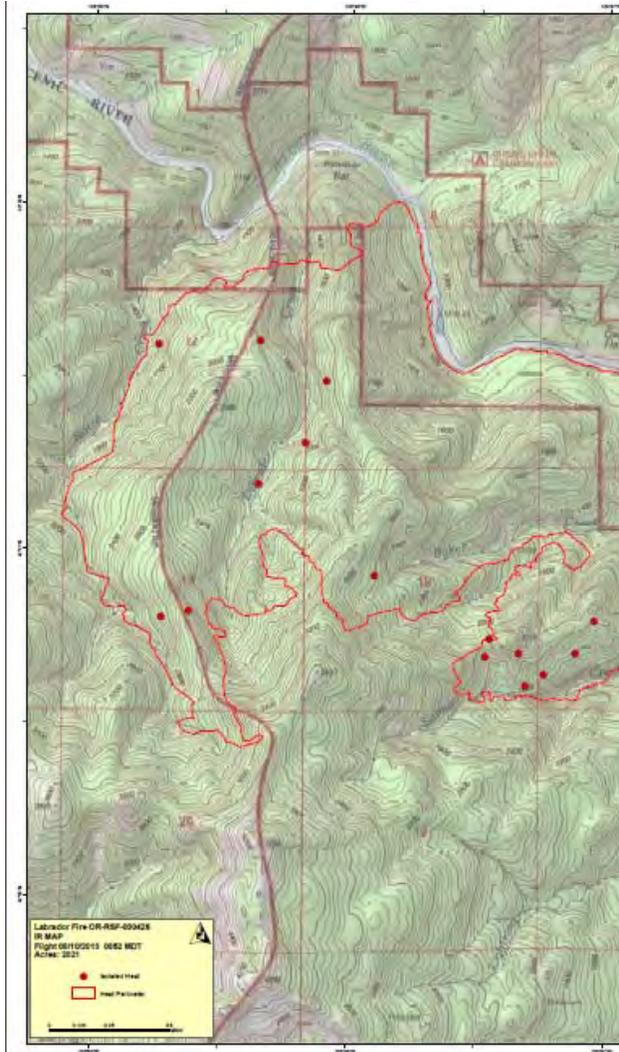


Figure 4: Infrared Imagery indicating remaining heat in the Labrador Fire, Rogue River-Siskiyou National Forest, during the night of 9-10 August 2013.

Topography

The topography in the Labrador Fire area consists of very steep, dissected terrain. It is very steep, rugged, and difficult country for fire fighters to work in safely and effectively. Several additional topographic features are affecting fire behavior:

- The variability of the terrain limits the potential for the development of large up canyon fire runs. The changing topography results in a change in fire behavior as the fires spread encounters different environmental conditions.
- The fire area is surrounded by higher ridges which shelter the fire area from the stronger ridge top winds.
- The area is very conducive to the development of strong smoke inversion layers. The surrounding higher terrain seems to help maintain the inversion and makes it very difficult for the smoke to be scoured out. The inversion will be a very persistent condition throughout the duration of this fire.

Fuels

The fuels discussion occurs in two sections: 1) the natural fuel complexes associated with the immediate fire vicinity and 2) the surrounding areas.

Fire Vicinity

The entire footprint of the Labrador Fire is within the area burned by the Biscuit Fire of 2002. The live and dead fuels that are receptive to burning in the vicinity of the Labrador Fire are a direct result of the Biscuit Fire. The Biscuit Fire modified the fuel profile from a vertically and horizontally complex late successional conifer overstory, with low crown separation and high surface fuel loadings, into a single story/age class early successional shrub/brush fuels with residual standing snags and a moderate to high load of large down logs. There are also a few topographically sheltered areas of relatively open canopied mixed conifer timber stringers that survived the Biscuit Fire. The dominant hardwood/shrub layer consists of mainly ceanothus, madrone, manzanita, and tanoak. The litter layer is the primary carrier of fire spread. The surface fire Fuel Model (FM) that is most representative of this area is a SH2 (142) Moderate Load, Dry Climate Shrub fuel model which was used for modeling the fires spread. While there is some variability of the fuels on different aspects and different soil types basically this fuel model is rather consistent and continuous throughout the area.

This is an unsheltered fuel model thus there is not shading of the fuels and reduced wind speeds from overstory trees. Currently the live fuel moisture (LFM) is close to seasonal lows, and fuel samples taken from the fire area indicate LFM are estimated at 120-140%., The LFM's will continue to lower as the season moves into the fall and the live fuels will become more available to burn, potentially resulting in increased fire behavior.

Surrounding Area

Generally the fuels outside of the Biscuit (2002) and Oak Flat (2010) Fire areas consist of a multi-layered fuel complex with a mixed conifer overstory consisting of Douglas-fir, ponderosa and Jeffery pines, and cedar, with Douglas-fir as the predominant species. There is a hardwood/shrub understory consisting of madrone, manzanita, tanoak and other species. Lastly there is the forest litter layer consisting of short needle and hardwood litter. The litter layer is the primary carrier of fire spread. The Fuel Models (FM) that are representative of this are a FM TU5 (165) Very High Load, Dry Climate Timber-Shrub. TU5 seems to be very representative for modeling the fires spread if it crosses the river and is burning outside the old fire scars in the area. Again there is variability of the fuels on different aspects and different soil types basically this fuel model is rather consistent and continuous throughout the area.

This is a very sheltered fuel model shading the fuels and reducing the winds, which results in this fuel model being a relatively slow spreading fuel model. Additionally this fuel model has a significant live fuel component, and the associated live fuel moistures (LFM) influences the fires spread. Currently the LFM is high enough, estimated at 120 – 140%, to help slow the fires spread. The LFM's will lower as the season moves into the fall and the live fuels will become

more available to burn potentially resulting in a slight increase in fire behavior. Modeled rates of spread with the drier live fuels and fairly hot and dry conditions increase to 15 – 30 chains/hour.

Seasonal Severity and Outlook

The Energy Release Component (ERC, using Fuel Model G) is a measure of the cumulative drying of large fuels, and is a good indicator of fire season severity. Figure 2 is an ERC graph for the Onion Remote Area Weather Station (RAWS), showing the 2013 season compared to average and maximum ERCs by date, and contrasting with 2002 (Biscuit Fire) and 2010 (Oak Flat Fire).

Thus far, 2013 conditions have been about two weeks ahead of average: 100hr fuel moistures were averaging 8% when normal values are about 13%. 1000hr fuel moistures have been at critical values- at least 3% below normal across the entire Predictive Service Area W4, and the information from the Onion RAWS reflects this. A Fuels Advisory reflecting these concerns (dated 8/7/13) from the Northwest Coordination Center (NWCC) Predictive Services can be found at <http://www.nwccweb.us/predict/w4.aspx>.

Figure 2 seasonal severity as represented by ERC-G may play out similar to the 2002 or 2010 season. These years had a similar trajectory to the current trend and possible future trend given forecast predictions. In the near future, we anticipate ERC is anticipated to hover around average values for the coming week. If 2013 continues to track with these analogue years the ERC could rebound to the 90th percentile again near the end of August into early September.

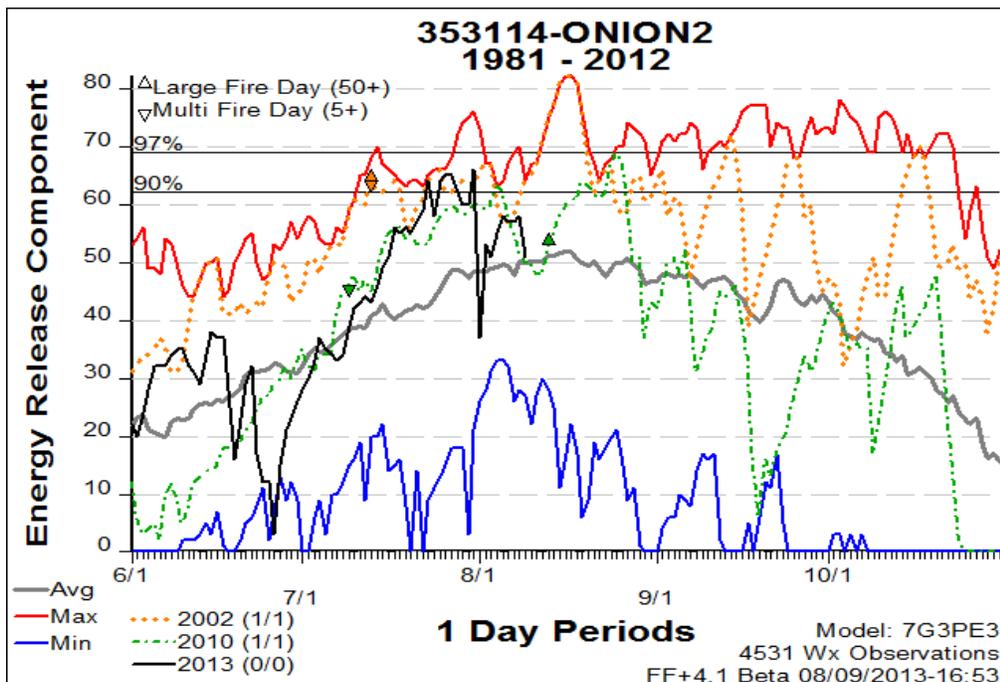


Figure 5 – Energy Release Component Fire Danger Index for 2013 compared to 2002 and 2010

Weather and Climatology

Current and Forecasted Weather Outlook

There will be a warming and drying trend as the low moves northward, creating a SW flow aloft. Forecasters have good confidence in the area returning to a normal fire weather pattern of hot and dry for the next 7-14 days, as a more stable airmass has developed behind this passing low. This is a weaker high that will not persist very long and be reset off the coast with a low level trough by the end of next week (August 17th).

An evaluation of historical weather records and conversations with local weather meteorologist indicate that about 2-3 episodes of dry unstable air could be expected between August 12th and October 30th. There is some indication in the current forecast that conditions will move into the low to mid-90s about 9 days out from Saturday August 10th. Key comments in weather forecasts to pay particular attention to are “poor ridge-top humidity recoveries, off-shore patterns setting up with East winds, thermal troughs moving through with a SSW flow or Haines of 5-6”. These should be thought of as triggers for potential fire growth and would be mentioned in discussion of daily Fire Weather Forecast from Medford National Weather Service office.

Seasonal Outlooks

Table 1 below gives the 7 day significant fire potential from Predictive Services at the Northwest Coordination Center (NWCC):

	Short Term		
	Saturday 8/10	Sunday 8/11	Monday+ 8/12-8/15
Predicted Services Potential	Moist	Moist	Moist
ERC for NW04	Moderating to Average 42-47 next 7 days		
100hr Fuels	Moderating to Average 11-15% next 7 days		
	Source: http://199.141.1.20/7day/action/forecast/9		

This projection indicates, for the near term, that fire danger conditions in southwestern Oregon will continue to moderate under the influence of relatively moist air.

Mid and Long-term Outlook

The National Climate Prediction Center (CPC) provides a prediction for near- to mid-term temperatures and precipitation (up to 90 days). Compared to normal conditions, southwestern Oregon is projected to experience above normal temperatures with near normal precipitation over this time period.

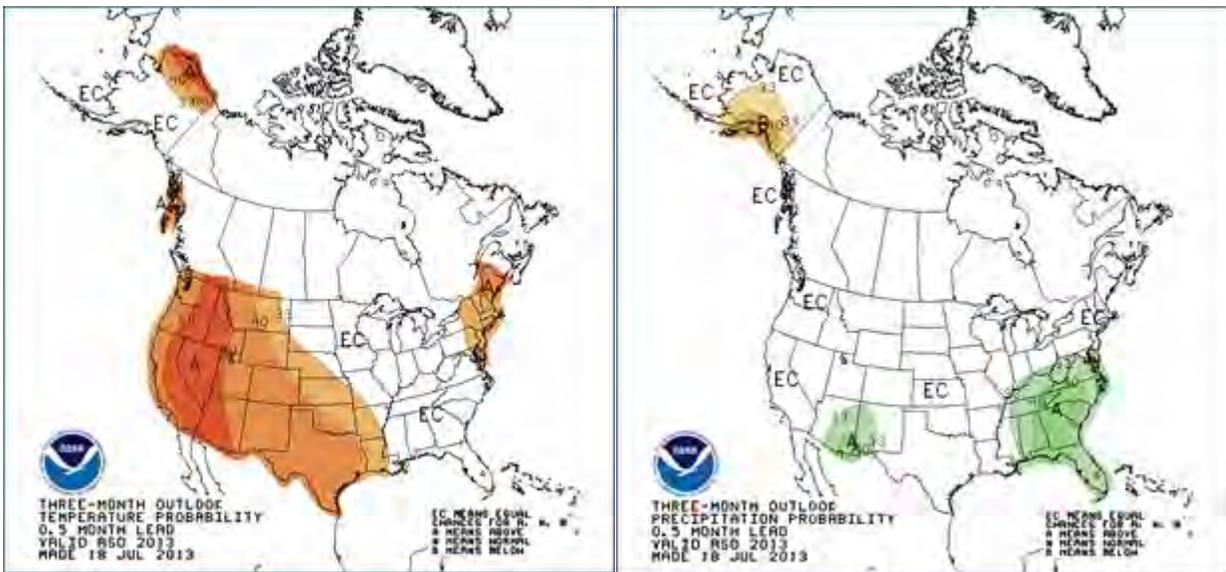
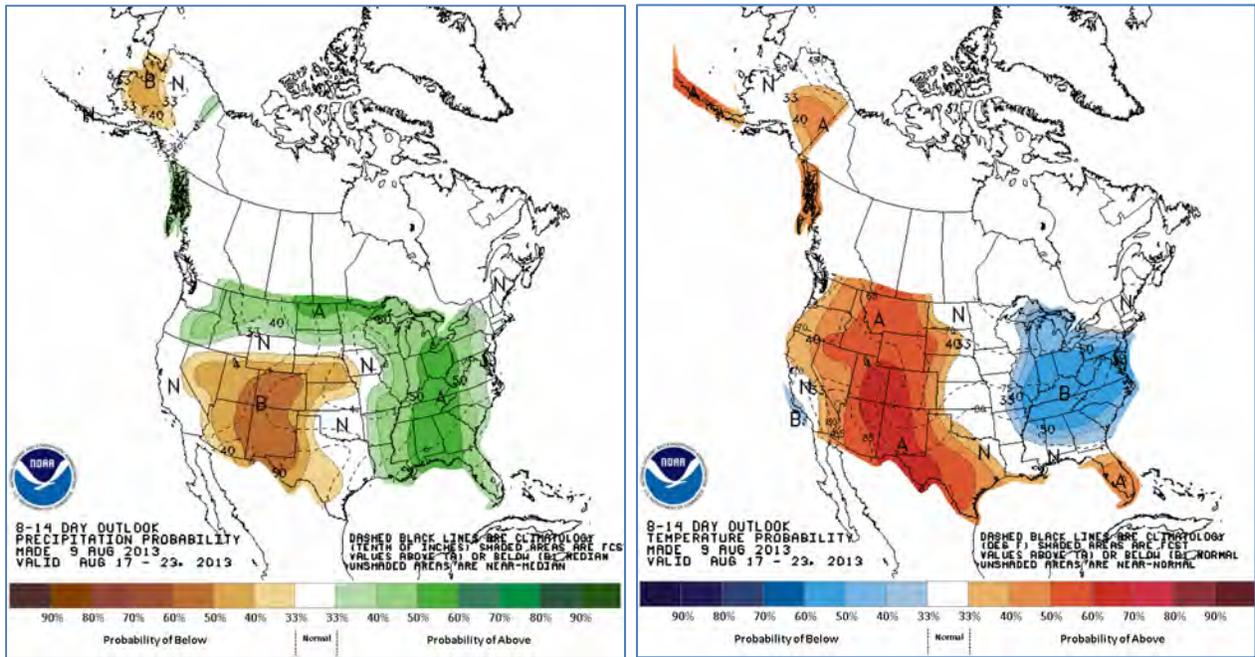


Figure 6: 30- and 90-day outlooks for temperature and precipitation

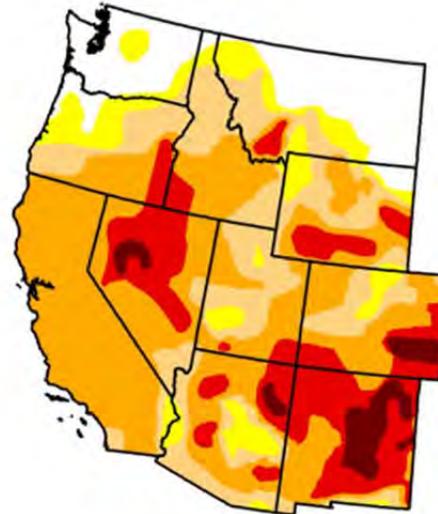
The U.S. Drought Monitor indicates that southwest Oregon is in a short term, moderate drought.

U.S. Drought Monitor

West

August 6, 2013
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	13.20	86.80	77.41	57.03	18.96	3.62
Last Week (07/30/2013 map)	12.95	87.05	77.52	57.26	17.59	4.68
3 Months Ago (05/07/2013 map)	13.46	86.54	71.04	47.26	15.25	5.66
Start of Calendar Year (01/01/2013 map)	24.39	75.61	69.31	45.04	18.01	2.15
Start of Water Year (09/25/2012 map)	15.12	84.88	77.15	43.65	16.85	1.77
One Year Ago (07/31/2012 map)	18.40	81.60	68.22	49.78	16.74	0.29



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, August 8, 2013
National Drought Mitigation Center,

Figure 7: Drought monitor for western U.S.

Fire Growth

- Key Question: What conditions (fuels, weather, topography) have driven fire movement thus far? Why has fire spread stopped over the past week?
- What weather events can trigger fire growth events? How can they be anticipated and communicated?

The following is an excerpt from the Oak Flat Long-term Assessment Plan (Aug. 20, 2010).

Typically, large fires in western forests gain most of their growth on relatively few days during the life of the fire with more modest or even minimal fire growth on most days. These growth days can be associated with wind events, dry cold fronts, thermal troughs, atmospheric instability, or simply the proper alignment of fuels, slope, and fire. Typical the late summer early/fall weather pattern in this area consists of a high pressure ridge moving in, dominating weather for a few days and blocking the systems that approach from the Pacific Coast. This type of weather creates hot, dry and unstable

conditions favoring additional fire growth. Hot dry weather lowers humidity particularly low overnight recoveries and sustained drying increases the burn period. An evaluation of historical weather records indicates that about 3 or 4 episodes of dry unstable air can be expected between August 20th and October 15th.

Observed Fire Growth

Below is a table listing the Labrador Fire acres burned by date, with significant fire growth days highlighted. Included are weather, fuel, and fire danger indices and observations. Data is from Onion RAWS. An ERC of 62 is the 90th percentile; 69 is the 97th percentile. 1000-hr fuel moisture was 10 to 11% (90th percentile).

Date	Acres Burned	Max Temp	Min RH	Max RH	Avg. Wind (~1400-1800)	Max Wind (mph)	ERC	Forecast Haines
7.25	n/a	89	21	44	8	26	64	3
7.26	n/a	84	18	47	10	27	66	3
7.27	409	75	21	64	10	33	66	5
7.28	564	70	25	77	9	25	63	5
7.29	366	71	33	87	8	16	61	5
7.30	321	74	37	64	5	12	61	5
7.31	139	77	20	93	9	21	66	4
8.1	73	59	64	100	9	19	51	4
8.2	9	68	36	100	8	24	53	3
8.3	73	74	35	100	9	27	52	4
8.4	22	78	31	63	8	20	55	3
8.5	26	80	29	63	8	21	58	2
8.6	1	82	33	65	7	16	57	4
8.7	0	73	44	67	9	22	57	3
8.8	17	73	39	39	9	28	58	3

Also below is a wind rose for the Onion RAWS, showing that the fire area receives strong winds, predominately out of the N and NW during the burning period.

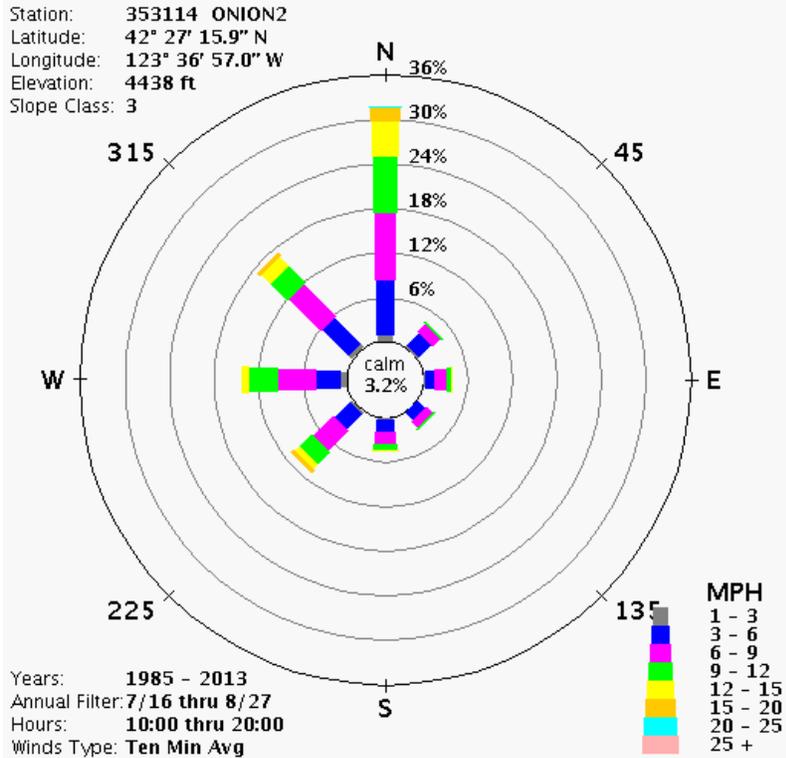


Figure 8: Wind rose for Onion RAWS, daytime winds mid July through August. Strongest, most frequent winds come from north and northwest.

The fire grew considerably when minimum daytime RHs were below 37, winds were strong, ERC was above 61, and the Haines was 5+ (all weather observations at Onion RAWS). It is important to note that the majority of the acres burned when max temperatures were in the low 70s and recoveries were above 64% at night. Likewise, higher temps and winds did not result in significant fire growth when the Haines was 4 or below.

Predicted Fire Growth

Short-term

Near term fire behavior (NTFB) was used to simulate fire spread for the next 7 days (Aug. 8-14), and projected an increased fire size by a couple hundred acres. This simulation does not include any effect of suppression or the recent precipitation received in the fire area. Also, the entire fire perimeter was assumed active. Each color represents one day's fire growth.

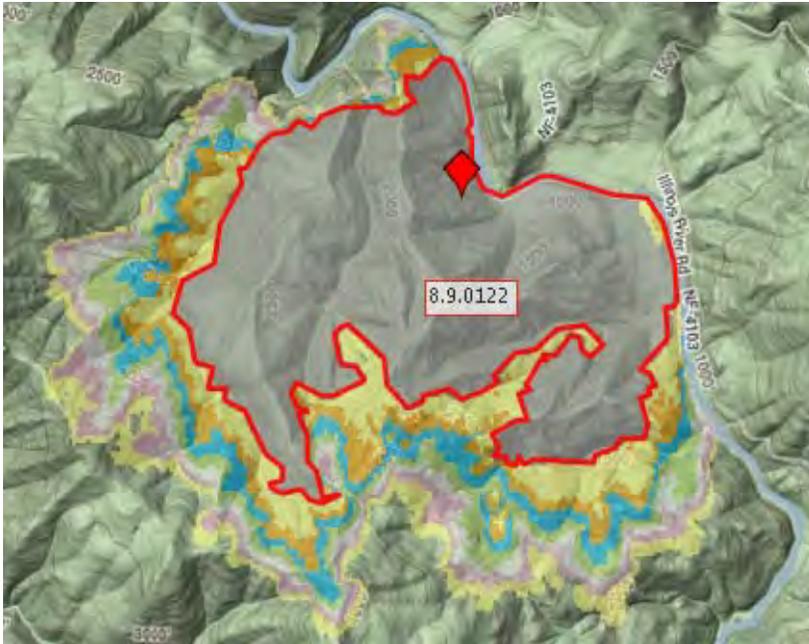


Figure 9: Near term fire behavior run (7 days) for Labrador Fire, initiated 8/9/22.

While doing several NTFB runs with different combinations of weather, the model frequently included a spot fire across the Illinois River on a knoll between Myrtle Creek and McGuire Gulch. The Illinois River Road (NF-4103) runs north-south along the slope. Fire managers should be aware of this modeled behavior if the fire continues SE towards Lightning Creek. A run of the WindNinja model was conducted to model the effect of general winds as they are modified by local terrain. Using NW winds at 10mph shows the channeling in the drainages and the acceleration of the wind on the ridges.

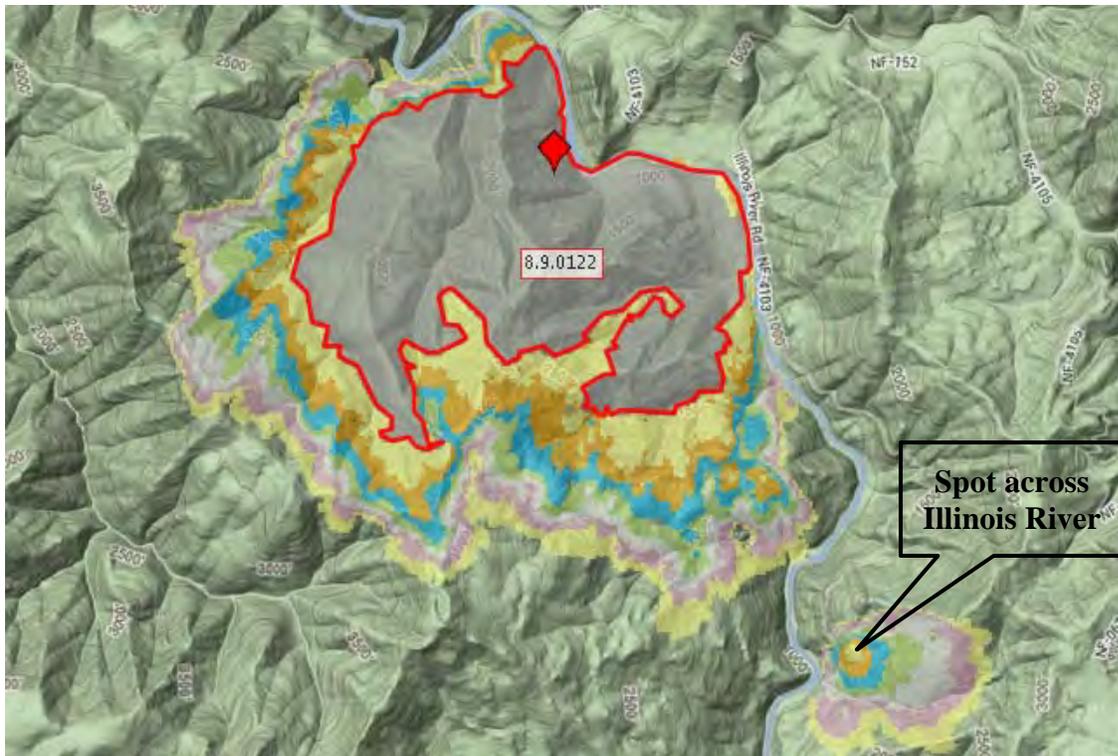


Figure 10: Near term fire behavior run with stronger winds. Several model runs resulted in a spot fire across the Illinois River in the location shown in the figure.

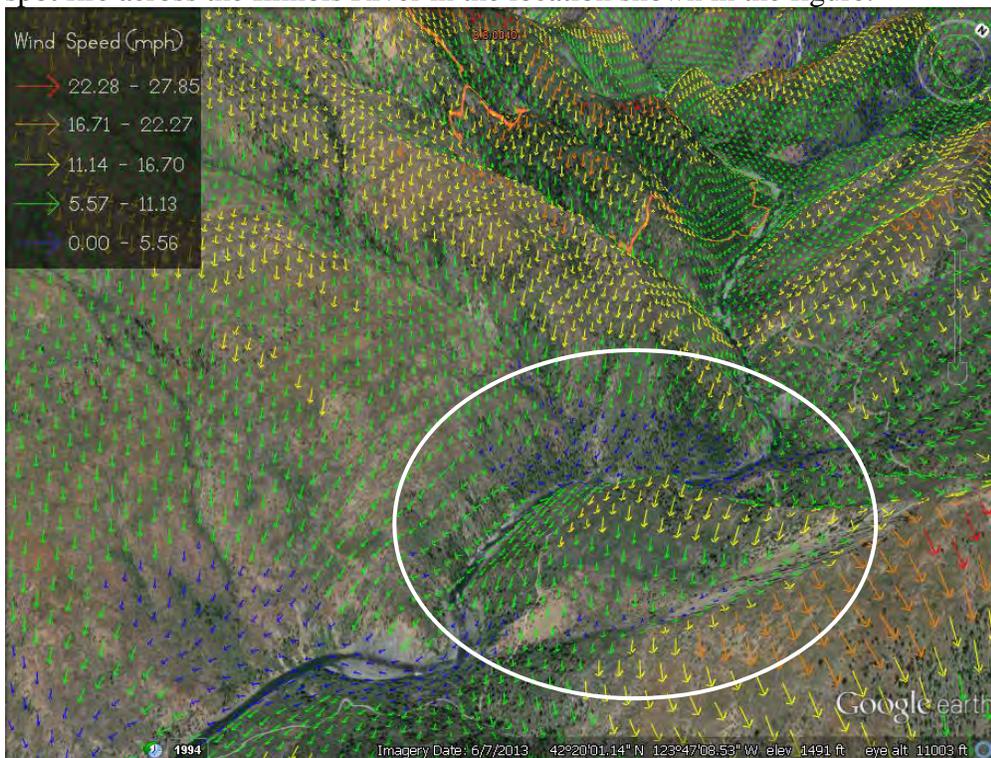


Figure 11: WindNinja model run showing effect of terrain on a NW wind of 10mph, with wind accelerating on and over a knoll on the east side of the Illinois River.

Mid- & Long-term Fire Growth Projections

Fire spread probability (FSPro) was used to simulate fire growth for 30 and 45 days starting August 8. Four thousand fires were simulated using the August 9 perimeter at 0122 hrs. Included are the probability outputs for each run and the associated histograms.

FSPro is a two-dimensional, ensemble simulation system that creates a probability surface from thousands of different fire “footprints” on the landscape for a given duration. The model incorporates terrain, fuels, fuel moisture, and forecasted and historical weather and winds. Like NTFB, the entire perimeter was assumed active and suppression is not modeled.

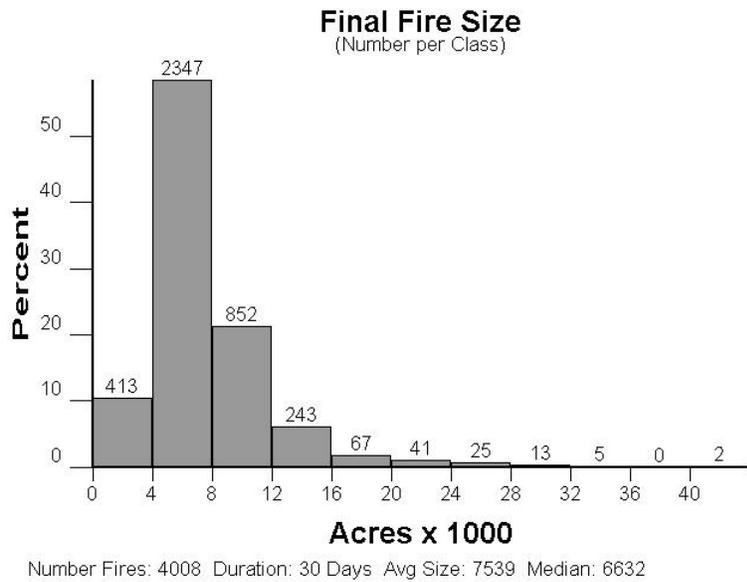
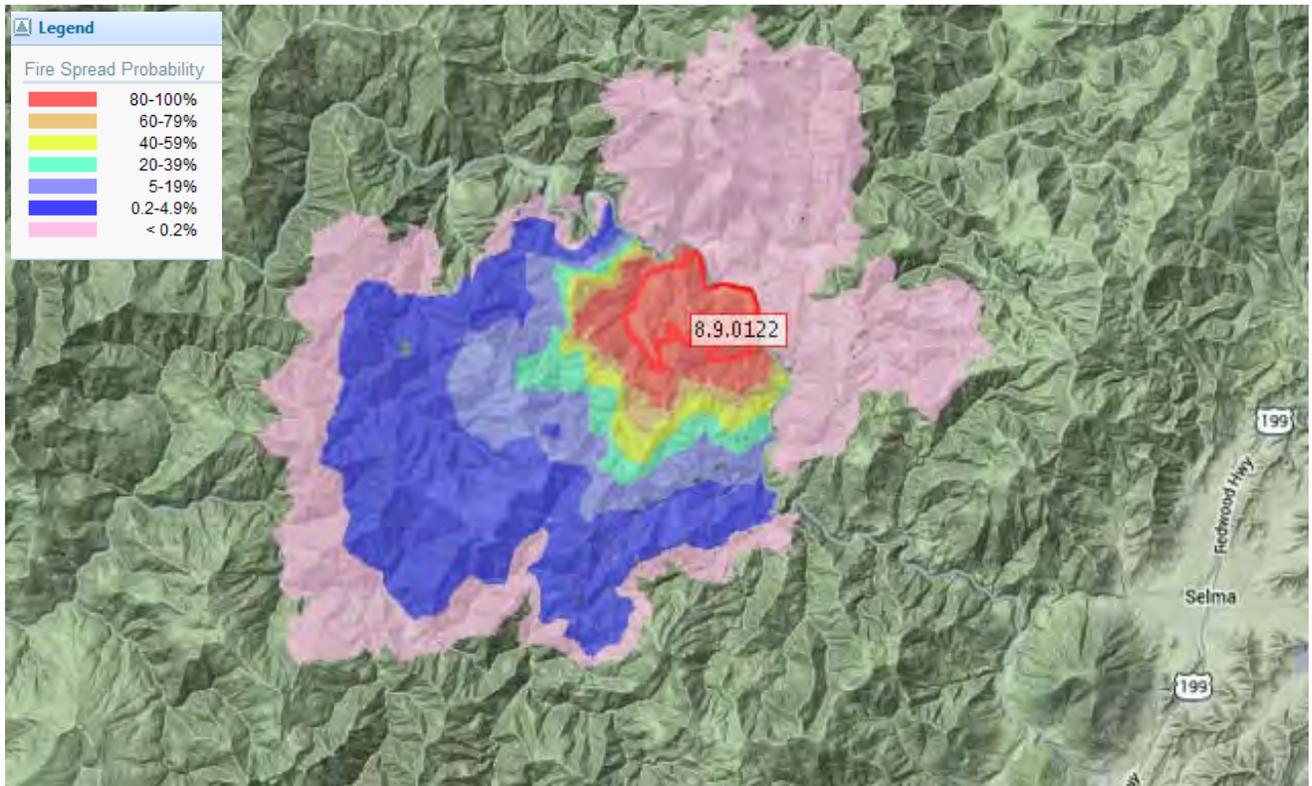


Figure 12: Fire spread probability (FSPro) modeling outputs for 30 days of fire spread starting August 9. With the Illinois River as a barrier to surface fire spread, the Labrador Fire is projected to move south and southwest. Spotting across the Illinois River is predicted to be a rare event in the next 30 days, but these spots result in significant fire growth to the northeast, should they occur.

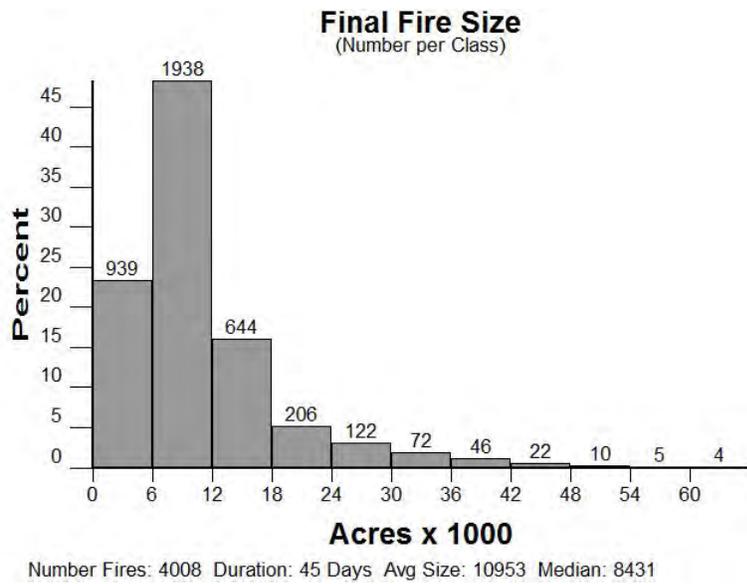
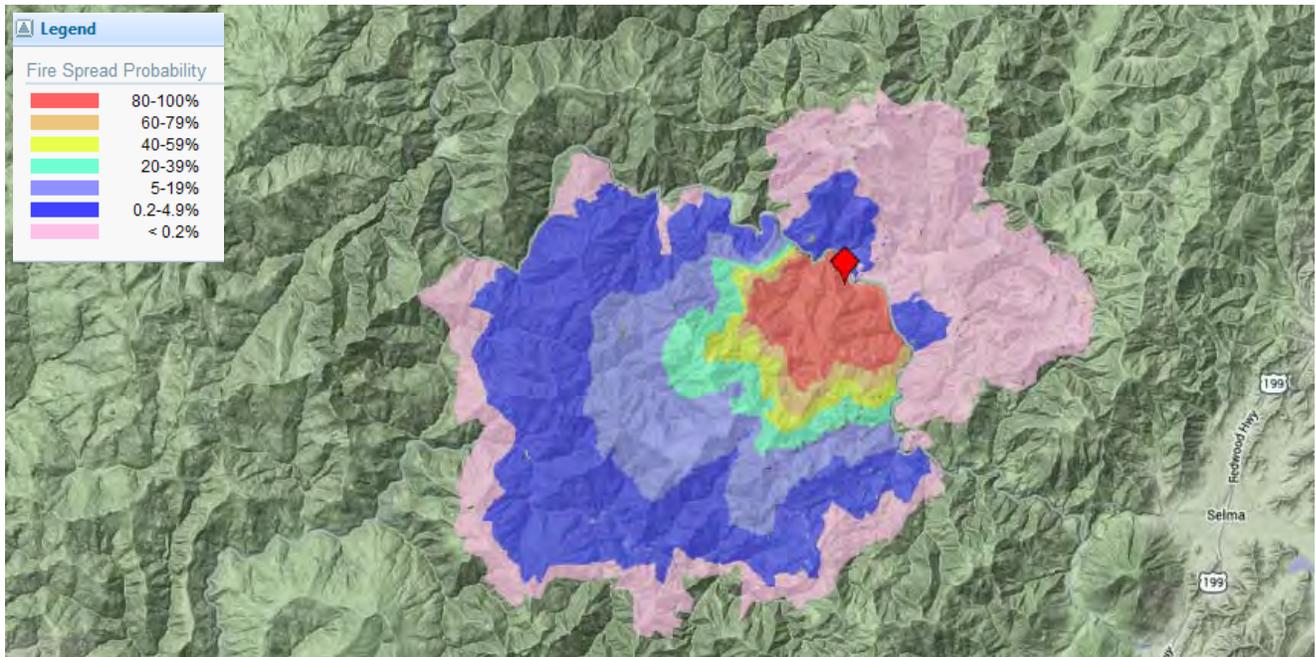


Figure 13: Fire spread probability (FSPro) modeling outputs, similar to Figure 12, but run for 45 days of fire spread starting August 9.

Season Ending and Season Slowing Events

Season Ending Events

- Key Question: How much longer will this fire burn, and where will it be by the end of the season?

Fire-stopping Events

A fire-stopping weather event is one that at least temporarily halts fire spread, but may not extinguish all heat. A lower amount of precipitation over a longer duration is more effective than a heavy amount of rain over a single day or two. Using 32 years of recorded data at the Onion Remote Automated Weather Station (RAWS), the area generally receives at least three precipitation events from August through October. The first is a trace around the first week of August (not shown). The Labrador Fire experienced this the first week in August. Three times in the 32-year history, or about 9% of the years, this “trace” resulted in an early fire-stopping event (shown?). The second pulse occurs after mid- August and into the first week of September, and occurs on about 50% of the years. The last event occurs about 41% of the years, in the last couple weeks of September and into October. The table below is by year, shows these three divisions—early, mid, late—and the precipitation associated with the date range.

Year	Month & Day Range	Precip(in)	Seasonal Timing
1981	Sept. 19	.15	Late
1982	Aug. 29	.36	Mid
1983	Aug. 29- Sept. 1	2.56	Mid
1984	Aug. 31	.15	Mid
1985	Sept. 1-2	.36	Mid
1986	Sept. 15-18	1.08	Late
1987	Oct. 31	.17	Late
1988	Sept. 19-20	.32	Late
1989	Aug. 22-23	.25	Mid
1990	Aug. 17-21	1.05	Mid
1991	Aug. 28-29	.20	Mid
1992	Sept. 24	.27	Late
1993	Aug. 15-20	3.28	Mid
1994	Sept. 3-11	.86	Mid
1995	Sept. 25-29	.85	Late
1996	Sept. 13-17	1.33	Late
1997	Aug. 20-26	.88	Mid
1998	Sept. 18-19	0.21	Late
1999	Aug. 7-11	.37	Early
2000	Sept. 1-4	1.42	Mid
2001	Aug.23	.13	Mid
2002	Sept. 17-18	.24	Late
2003	Aug. 2-5	1.64	Early
2004	Aug. 22-26	.50	Mid
2005	Sept. 17-23	.31	Late
2006	Aug. 8	.46	Early
2007	Aug. 19	.27	Mid
2008	Oct.2-5	1.76	Late
2009	Aug. 13	.95	Mid
2010	Aug. 30	.10	Mid
2011	Sept. 25-26	.12	Late
2012	Oct. 13-16	1.81	Late

Timing	Seasonal Range	% Occurrence (32 Years)
Early	1 st two weeks in Aug.	9%
Mid	Last two weeks in Aug.; 1 st week in Sept.	50%
Late	Mid to late Sept. & Oct.	41%

Table 1: Timing of season-slowing, or fire-stopping events

Season-ending Events

A season-ending event consists of a fire-stopping event followed by a persistent combination of environmental factors that end the fire season. The Northwest Coordination Center (NWCC) develops waiting-time distribution functions—or TERM events—for each Predicted Service Area (PSA). The season-end graph below is from a SIG—group of RAWS stations within the southwestern Oregon PSA. Season-ending estimates are developed from the Predictive Services 7-day significant fire potential product. The product determines the probability of a significant fire occurring based on historical dryness and fire occurrence. The analysis results assume end of season when three or more consecutive “green” days occur (1% probability of a significant fire event).

For more information go to the NWCC website (<http://www.nwccweb.us/predict/fban-ltan.aspx>).

Probability of Season-ending Event	Date
25%	Sept. 12
50%	Sept. 24
75%	Oct. 5
90%	Oct. 13
99%	Oct. 25

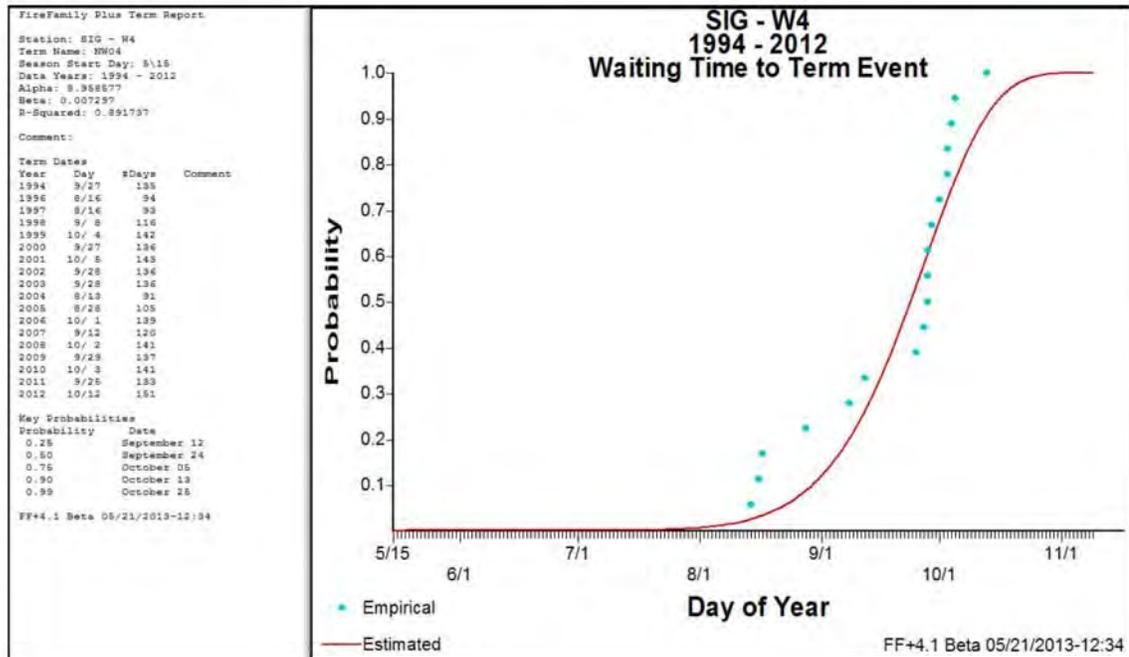


Figure 14: Waiting time evaluation of season ending dates. There are equal chances the season will be over by September 24, and 90% of seasons are over by October 13.

Historical Fire-stopping & Season Ending Events

The Oak Flat Fire (Aug. 2010) received a tenth of an inch of precipitation Aug.30—a fire stopping event. This was followed by a season-ending event Sept. 8-19 (2.38” of rain). The Biscuit Fire (Aug. 2002) did not receive the early Aug. trace. The first trace of moisture occurred on Sept. 7 (0.06”), and the fire received a fire-stopping event Sept. 17-18 (0.24”). It was not until Nov. 7-13 that Onion RAWS recorded a season ending event (7.54”).

Smoke Management

- Key Question: What will be the future smoke impacts to Cave Junction, Selma, Grants Pass? How can they be anticipated and communicated?

Local managers have asked the Long Term Assessment Team to provide some information useful in communicating with the public about the smoke impacts likely to occur as a result of the Labrador fire. There are analytical tools that can evaluate the amount and distribution of smoke resulting from wildfires burning, but the tools are best used immediately prior to the event that generates smoke (<http://firesmoke.us/wfdss/>). The map below identifies the trajectory of smoke from the Labrador fire based on the last few days which had an unstable airmass. This indicates it is lofting up and out over the wilderness towards the coast.

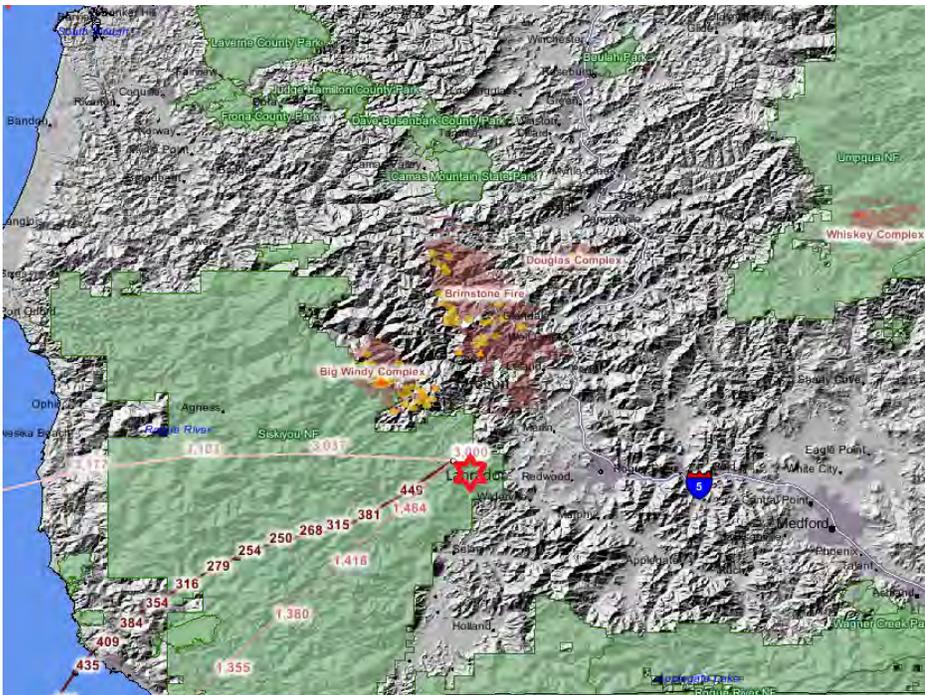


Figure 15: Modeled smoke trajectory from Labrador Fire on August 8, projecting that smoke impacts on those days are in a southwestern direction from the fire site – away from Cave Junction, Selma, and Grants Pass.

The presence of smoke from neighboring large fires has been overshadowing that of the Labrador fire with more of an impact on the Grants Pass communities. Smoke impacts from the Labrador fire could impact Selma and Cave Junction communities when the fire becomes active. Even with diurnal or typical condition winds, the smoke will flow SE along the Illinois River and into the Deer Creek Valley during the day.

Currently there are monitors setup in Cave Junction, Grants Pass, Medford and Merlin operated by the Oregon Department of Environmental Quality (ODEQ). There is a website where information can be gathered for the smoke forecast.
www.oregonsmoke.blogspot.com

The selected course of action will minimize risk to firefighters consistent with incident objectives. The duration of the remaining fire season could result in this fire becoming very large and producing long duration smoke management issues in local communities including the Illinois Valley, Grants Pass, Selma and to a smaller extent Medford.

Following are a few talking points that can be used to build products for public distribution in press releases, interviews, public meetings, etc.:

- Fire managers have developed a strategy for the management of the Labrador fire that could likely produce smoke into September. This plan was developed considering firefighter and public safety, fire suppression costs, impacts on natural resources, and impacts on the surrounding communities and forest users. One of these impacts is smoke, as smoke can affect public health, the quality of recreation experiences, and the livelihoods of residents in the tourism industry.
- The strategy that was selected means that smoke from the Labrador wildfire can be expected to be visible when conditions change that allow it to burn actively. Fire crews may use backfires to secure planned fire lines and the fire itself burns to those containment lines. Smoke will be more evident from areas closer to the fire (Oak Flat, Cave Junction and Selma), with the effects less noticeable from Grants Pass, and even less so from Medford.
- Smoke has always been part of the southwestern Oregon landscape during summer and early fall, as lightning fires and fires lit by humans burned through forests, shrublands, and grasslands. Modern land management practices still use fires to restore these landscapes and dispose of accumulated vegetation, but in a controlled fashion through prescribed fires. One of the main objectives of these prescribed fires is to reduce the chances of large, uncontrolled wildfires. Still, wildfires do occur, and when they do occur, fire managers must consider firefighter safety, fire costs, and potential damage to natural resources alongside the impacts of smoke when they are choosing how and where to fight these fires. Therefore, we are less able to control smoke impacts from wildfires than we are able to do from prescribed fires.

- The following website can be accessed by the public to get information on air quality for a given area: <http://www.deq.state.or.us/aqi/index.aspx>

Air Quality Index

The Air Quality Index is a color-coded tool that categorizes air quality. The map below shows the location of DEQ air quality monitoring stations throughout Oregon. Select a station near you by clicking on one of the colored dots.

At-a-Glance

The dots on the map change color depending on the current air quality health level at each station. You can quickly assess statewide air quality based on the color of the dots. The meaning of the colors can be found below the map.

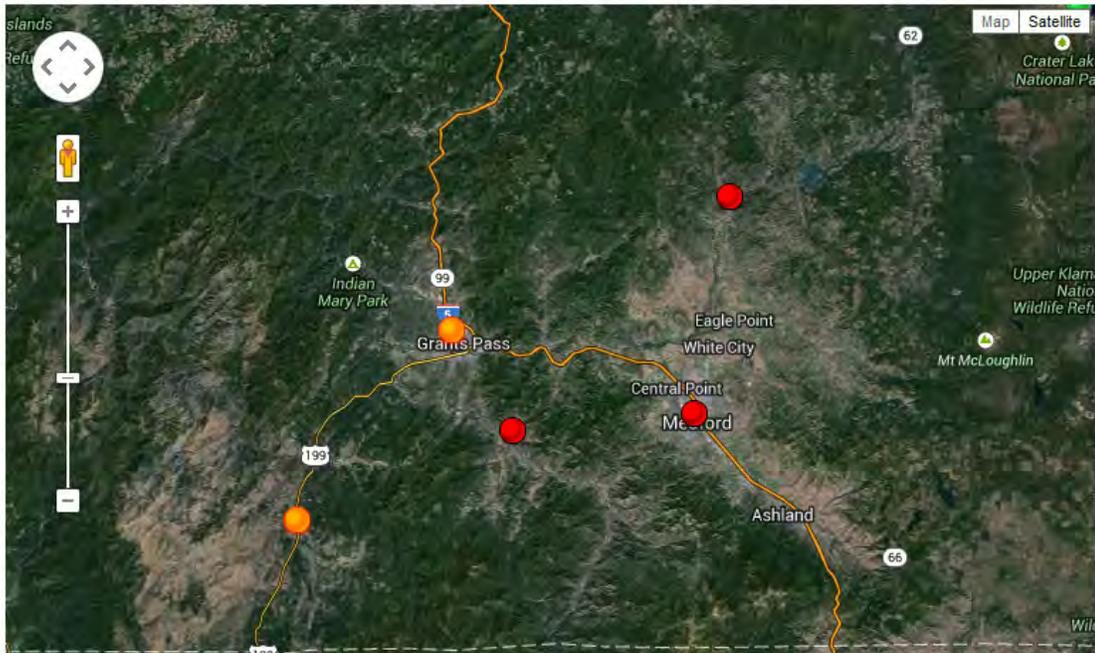


Figure 16: Location of air quality receptors in vicinity of Labrador Fire

Risk Assessment

- Key Question: What is the threat to Values at Risk?
 - Private lands and structures to East
 - Emily Camp
 - Pearsoll Peak Lookout
 - Klondike Creek – coho salmon habitat
 - Briggs Creek Mines

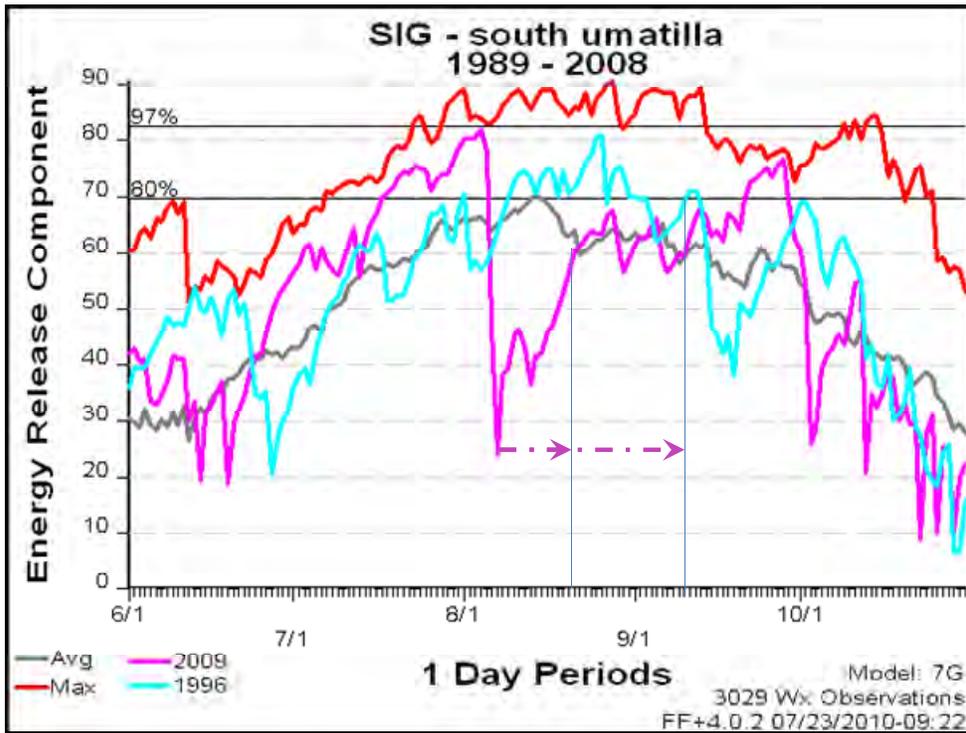
Appendix A is a map of the locations of each of these Values at Risk and the current fire location.

Below is a table that contains the values at risk in relation to the three fire simulations listed above. Due to the Illinois River, the moderated weather conditions, and the discontinuity of fuels in the Serpentine soils, spread is checked in most directions, limiting the exposure to the values of concern.

Value at Risk	7-Day NTFB (FARSITE in WFDSS)	30-Day FSPro (%)	45-Day FSPro (%)
Community of Oak Flat	Yes	<0.2%	<0.2-4.9%
Developed Recreational Sites (4)	No	<0.2%	<0.2-4.9%
Mines	No	W: 40-59% E: <0.2%	W: 60-79% E: <0.2%
Timber (Port Orford Cedar Infected)	No	0%	<0.2%
Wildlife (Northern Spotted Owl)	No	20-39%	40-59%
Fisheries	Yes	Yes (0-100%)	Yes (0-100%)
Special Interest Areas (Botanical)	No	0%	0%
MAP 1	No	5-20%	20-39%
Prospect 1a	No	0%	0%

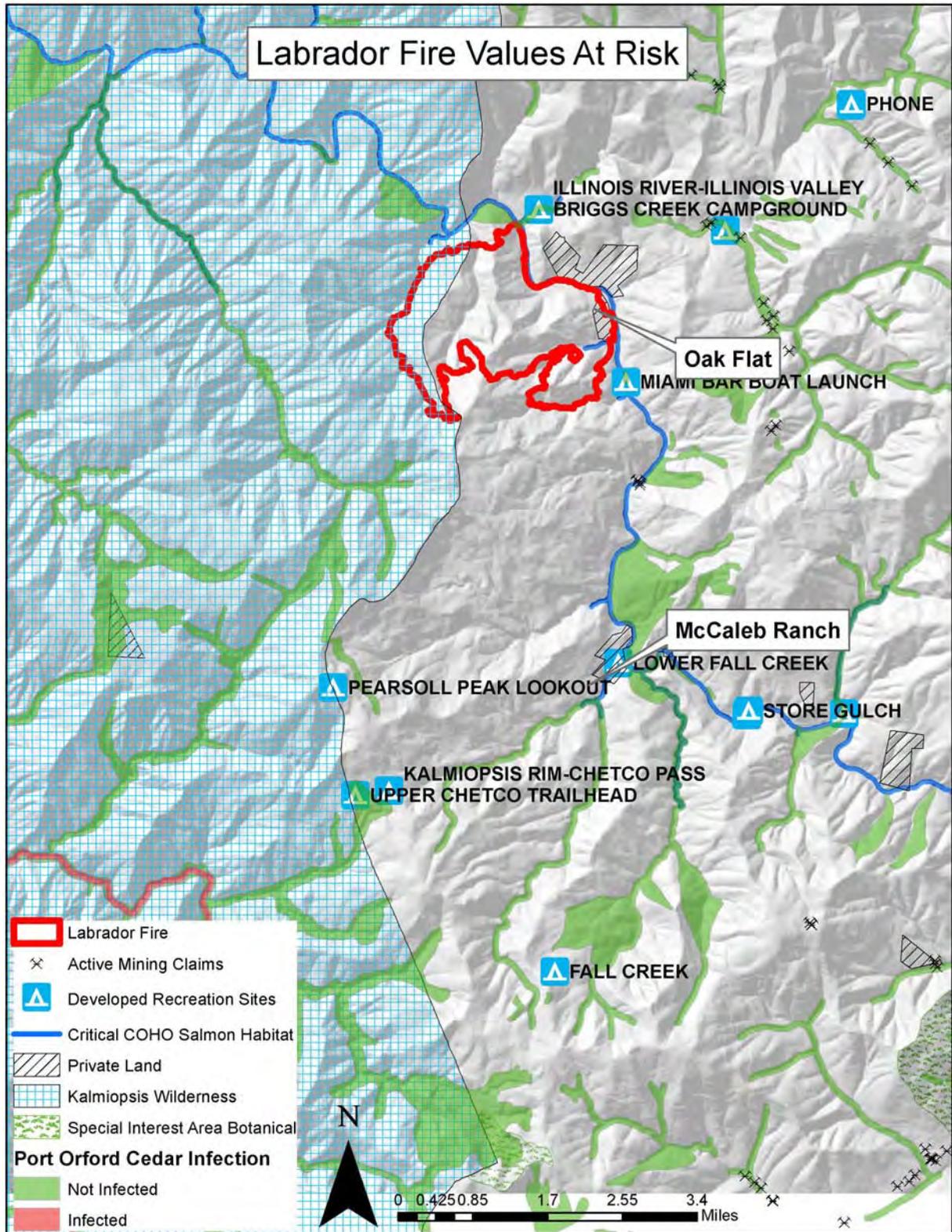
Recommendations

1. We recommend that the local forest and the IMT develop a public information package that focuses on expected fire and smoke for the remainder of the fire season. We have developed talking points that can be used to initiate this discussion. Long term fires bring with them different effects and different approaches, and we can use this opportunity to explain what we DO know about the likelihood of future events – fire growth days, periods of relative quiescence, etc.
2. To anticipate large fire growth days, monitor forecasted weather for poor overnight humidity recoveries, instability, and subsidence. Instability and subsidence are best monitored in fire weather forecasts, and overnight humidity recovery can be monitoring at local RAWS stations using the Roman fire weather site (<http://raws.wrh.noaa.gov/roman/>). Request that the deployed fire RAWS sites remain on site and collect data until the end of fire season. There are three Incident Remote Automated Weather Stations (IRAWS) that were deployed on the Labrador fire to monitor weather more closely than local weather stations on the unit. They are located at:
 - o McCaleb Ranch a lower elevation site @ 1161 feet; IRAWS27 /42.307892N 123.781603W
 - o Soldier Road at a mid- elevation site @ 2296 feet; IRAWS30 /42.352861N - 123.74911W
 - o Serpentine located at a higher elevation site @ 4385 feet; IRAWS31/42.341278N -123.667806W
3. This fire will likely resume spreading to some extent before the end of August. This plan is built on the foundation laid by the fire season thus far, and conditions will change over the next few weeks. We recommend a re-assessment and validation of this long term assessment in about three weeks, assuming that the fire becomes more active.
4. Operations – the Forest has been able to consistently emphasize safety as the first priority for this fire, and had chosen an approach that refuses to assign firefighters to work in and around standing dead trees. There will still remain the temptation to enter the fire area and engage in limited tactical operations (extinguishing small hot spots, scratching a bit of line, direct buckets from the ground, etc.). We encourage that fire managers recognize this temptation, and the “mission creep” that it can facilitate. Stay the course – it is a safe, effective course.
5. Recent rainfall has dampened fire activity, but it is still early August. Experienced fire managers in the Pacific Northwest will all be able to tell of fires that received August rain that became active again by the end of the season, and the Labrador Fire should be no exception. Below is a fire danger index (ERC) graph for the North Fore Fire of 2009 (2009 ERC trace in purple). This wilderness fire received about 2.3 inches of rain over a 23 hour period in early August, and the Forest chose an indirect suppression strategy. After two weeks of drying, ERC values were normal, and after three weeks approached the “large fire threshold” (or the 80th percentile ERC). The fire burned about 12,000 acres in September and October.



Effect of 2.25" of rainfall in early August (2009) on the North Fork Fire, Umatilla NF. This rainfall effectively halted fire spread for about 2 weeks while ERC rebounded to average levels; at this point the fire resumed spreading. One more week of drying brought ERC to the large fire growth threshold level (80th percentile)

Appendix A – Values at Risk



Appendix B – Long Term Implementation Plan

Management Action Points and Containment Prospects

Labrador Management Zones- The area west of the Illinois River will be within the west Management Zone and the area east of the Illinois River will be the east Management Zone.

Labrador Management Action Points (MAPs)

A **Management Action Point** is a line on a map or a place in time or a changed condition that is put in place to initiate an action, a decision or reevaluate a prior decision.

Key questions asked by the Line Officers...**What are the thresholds or triggers for reopening the Illinois River road?**

Based on the LTAT findings, we feel like the Illinois River (4103) and 4105 Roads can be opened at this time. See MAP 1 description for considerations to reclose the roads.

What are the triggers for closing any wilderness trails?

At this time there is no need to close any further trails in the Wilderness.

West Map 1- Description-Starting at the Illinois River follow the road in Section 29, west to Chrome King Mine, then west along ridge to Gold Basin Butte.

Proposed Action(s)/Considerations- If fire crosses MAP and suppression action is unsuccessful within the first operational period:

- Consider structure protection on Pearsoll Peak Lookout and other values at risk.
- Consider checking action on fire edge along river, if appropriate.
- Consider implementation of Prospect 1A.
- Consider re-closing the Illinois River Road below the 4103 and 4105 junction.
- Consider re-evaluation of Incident Complexity and Management

Values at risk adjacent to MAP- Pearsoll Lookout, McCalebs Ranch, Swinging Bridge.

Potential values at risk further south- Hoover Gulch RNA, Private inholdings, Fiddler Mtn. Communication Towers

West MAP 2-Description- Starting at the Illinois River near Tin Cup Pass, follow the Josephine/Curry County line southwest to Gold Basin Butte. From Gold Basin Butte follow Wilderness Boundary to its intersection with the 4201 road.

Proposed Action(s)/Considerations-If fire crosses MAP:

- Consider point protection of values at risk within and adjacent to the Wilderness in the areas west of the MAP.
- Consider further evaluation and prep work in areas south of Prospect 1A and north of Prospect 3.
- Consider re-evaluation of Incident Complexity and Management
- Consider re-evaluation of overall strategy if fire breaches MAP.

Values at risk adjacent to MAP- Coho habitat in Klondike Creek, Emily Camp.

Potential values at risk further west- Game Lake, Quail Prairie Lookout, private lands.

East Map 2A- Description- Follow the Illinois River to the Northwest (down river) from the area of the road junction of the 4105 and the 4103 roads (Sec. 2) to Oak Flats and Briggs Creek.

Proposed Action/Considerations- If fire crosses MAP and suppression action is unsuccessful after the first operational period:

- Consider implementing Prospect 2A.
- Consider evacuation of private inholdings at Oak Flat and public along Illinois River Road.
- Consider re-closing Illinois River road.
- Consider re-evaluation of Incident Complexity and Management.

Values at risk adjacent to MAP- Oak Flat private inholdings, Store Gulch, Swinging Bridge, Briggs Creek CG, private inholdings at 6 Mile Rapid.

East MAP 2B-(Map 2B and Prospect 2A share the same boundary) From the junction of the 046 road (Sec. 24 near Spaulding Pond) follow the dozer line down ridge to the major switchback (Sec 24) in the 4105 road, follow the 4105 road to the 4105 and 4103 junction, then following the Illinois River from the area of the 4105 and 4103 road junction up river to Kerby Flats in Section 7.

Proposed Action(s)/Considerations- If fire crosses MAP and suppression action is unsuccessful after the first operational period:

- Consider implementing Prospect 2B.
- Consider re-evaluation of Incident Complexity and Management
- Consider re-closing 4103 road at Forest boundary.

Values at risk adjacent to MAP- Private in holdings at Shade Creek, private lands near East side of Forest boundary in Sections 32 and 33.

Potential values at risk further north- Spaulding Pond CG.

East MAP 3- Description- Following the Illinois River from Oak Flats and Briggs Creek down River to the confluence with Silver Creek.

Proposed Action(s)/Considerations- If fire crosses MAP and suppression action is unsuccessful after the first operational period:

- Consider implementing Prospect 3.
- Consider reevaluation of Incident Complexity and Management

Adjacent Values at Risk- Briggs Creek CG

Potential Values at Risk further North- Agness, Oak Flat, Cohners Place, Chrome Ridge Botanical Area.

Labrador Containment Prospects

A **Prospect** is a containment feature on the ground where a specified suppression action will take place. It is generally tied to a Management Action Point that will initiate the Prospect action.

Containment Prospects (potential containment lines) were identified by the team to contain the Labrador Fire as well as future fires within the area. Each Prospect includes:

- an objective
- conditions that may be present during the action
- activities to be implemented
- probability of success of the actions
- resources needed to implement the actions
- cost
- consequences of not implementing the action

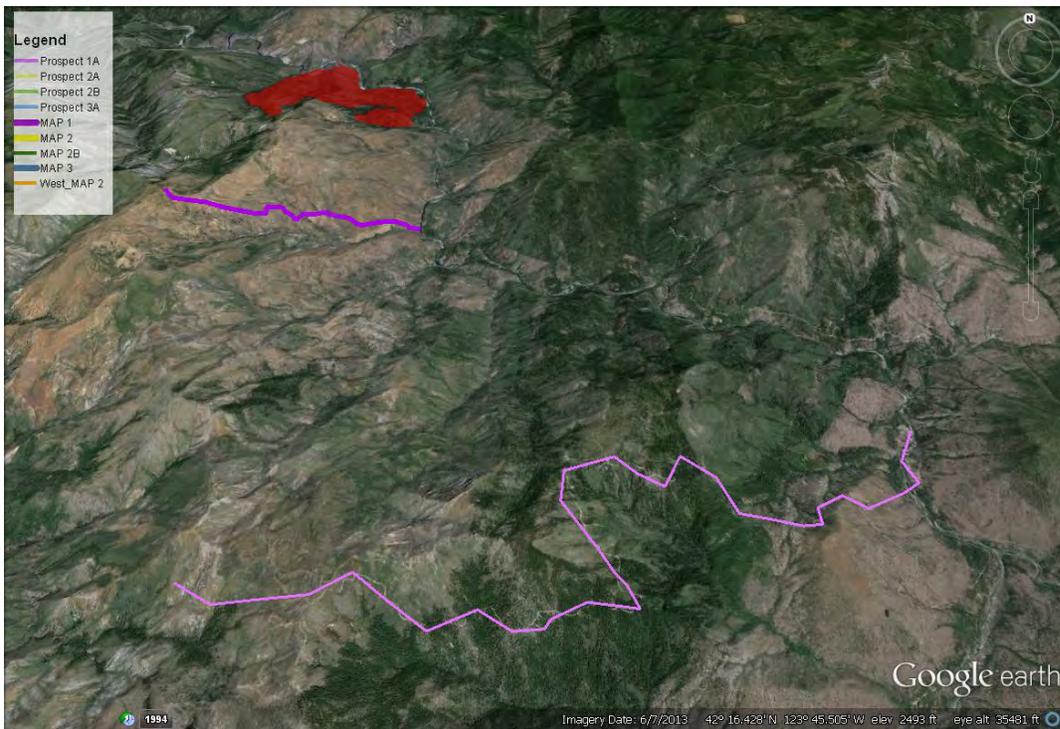
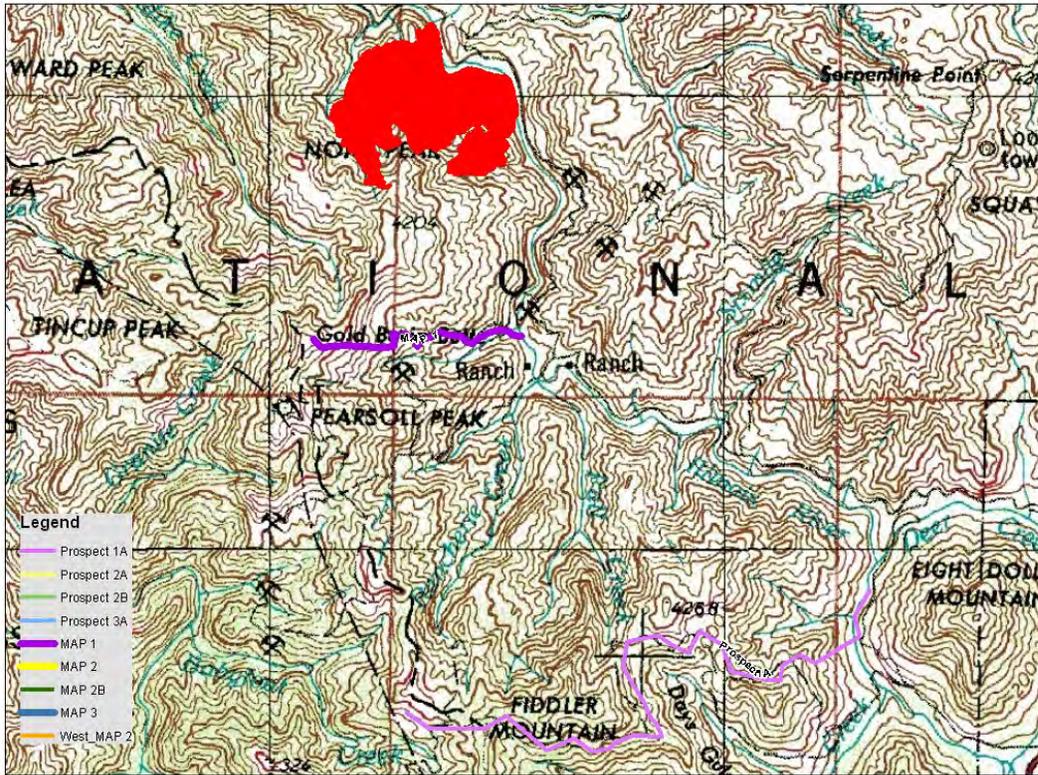
All of the listed Prospects have a burnout component to increase the probability of success. Each Prospect can either be implemented in its entirety or a section at a time. This decision should be based on fire behavior and projected time for fire to reach Prospect line. Cost estimates are based on the operational cost of the Prospect, *not including overall support costs*.

The work that the NWIMT 2 has completed prior to the arrival of the LTAT has been incorporated into the Management Action Points and Prospects section. An attempt has been made to keep the original naming convention consistent.

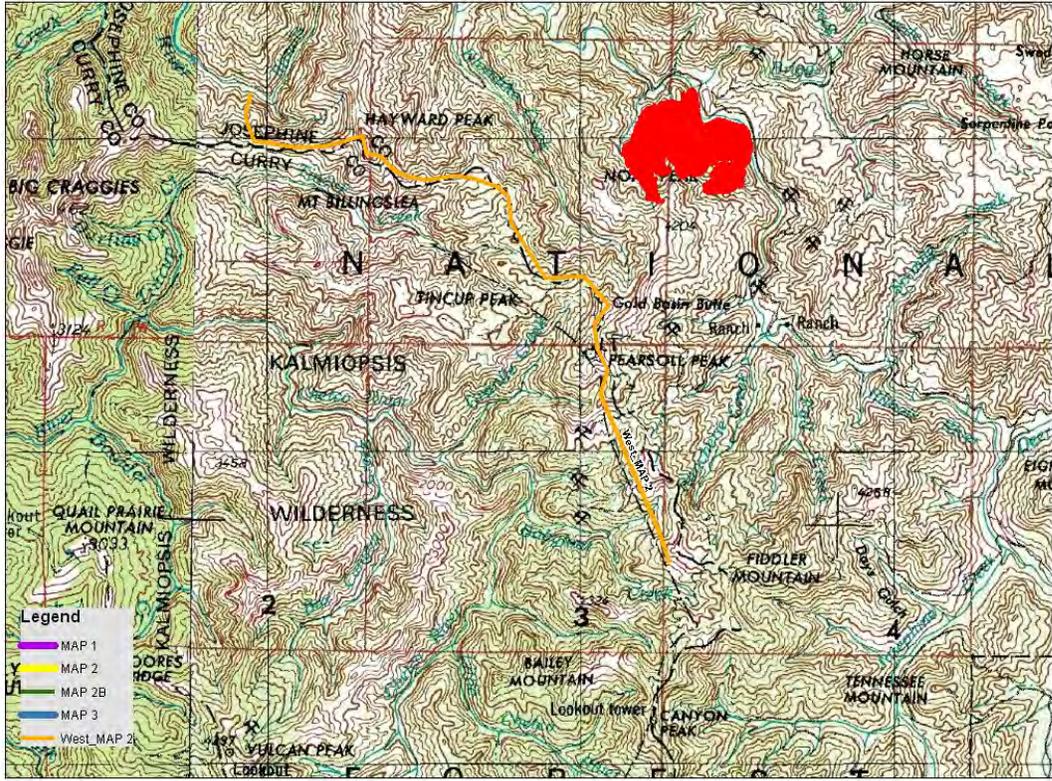
Prospect Descriptions

West Management Zone Prospect

WEST Prospect 1A-Description-From the junction of the 4201 road and the Kalmiopsis Wilderness boundary, follow the 4201 road east to the major corner in road in Section 24. Follow ridge to northeast with dozer line to junction with 023 road. Continue northeast along ridge to the Illinois River in Section 18.



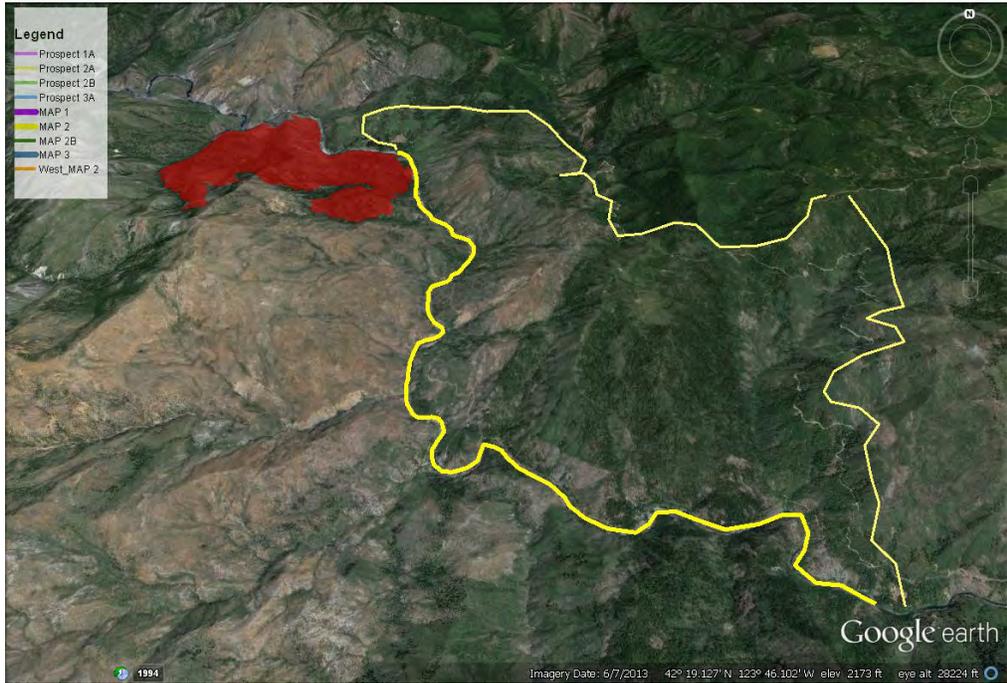
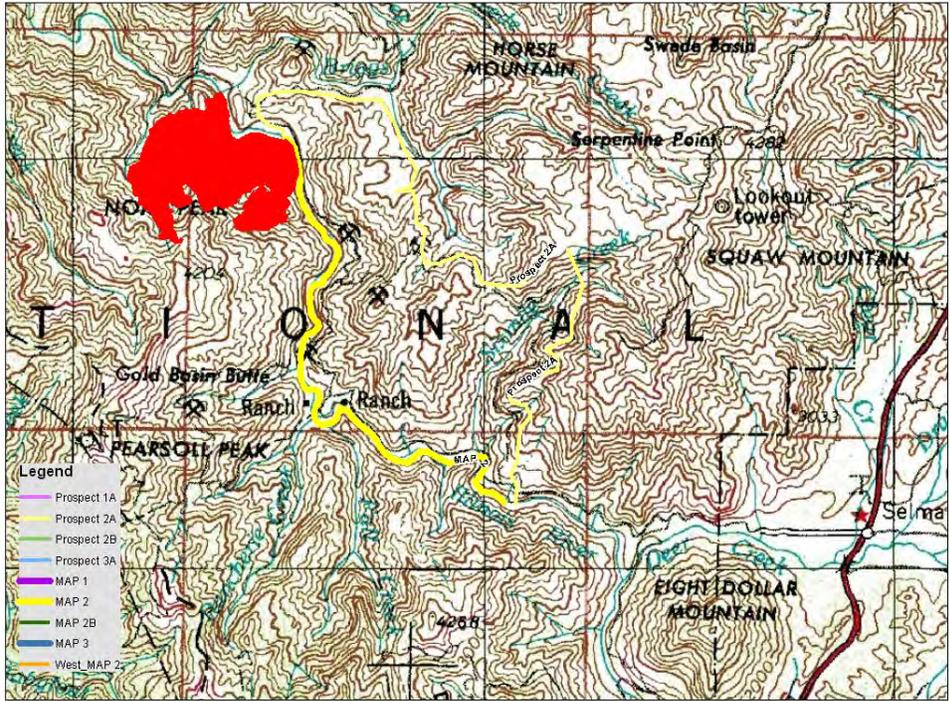
West Prospect 1A 4201 road, with fire location



West Management Action Point (MAP) 2

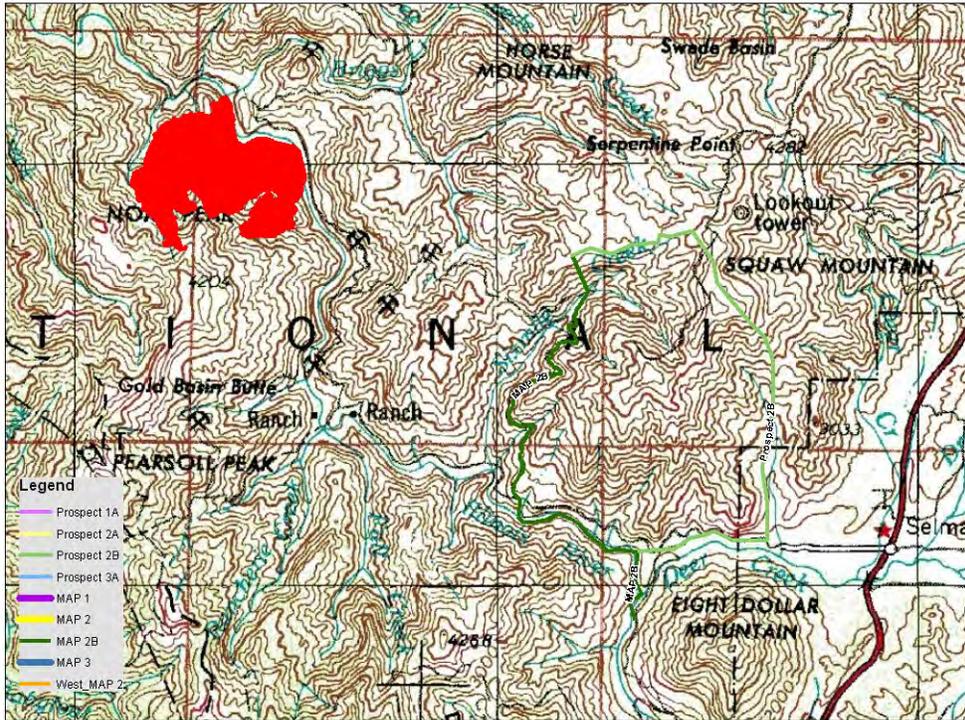
East Management Zone Prospects

EAST Prospect 2A –Description-From the 4105 and 4103 road junction, follow the 4105 road north to the major switchback in Sec. 24. Follow dozer line north to the 046 road junction in Sec. 24 (near Spaulding Pond), follow the dozer line west along ridge to the junction with the 4105 road. Continue along 4105 road to the northwest to Brushy Bar and the 4103 and 4105 road junction. Follow the 4103 down to Briggs Camp and Oak Flat along the Illinois River.



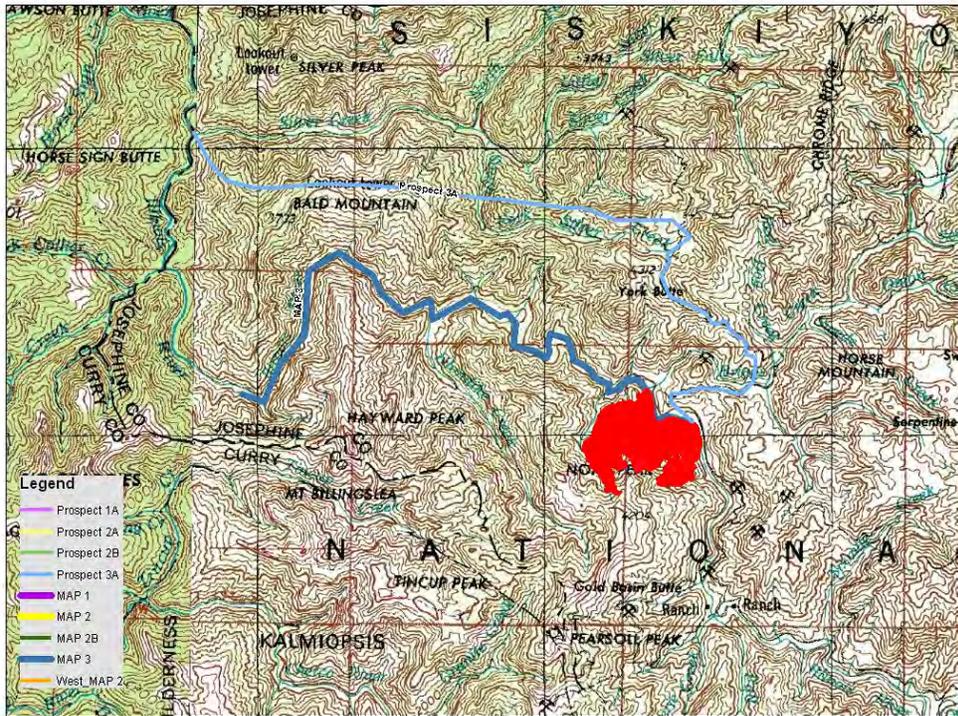
EAST Prospect 2A – 4105 road and MAP 2

EAST Prospect 2B- Description-From Kerby Flat in Section 7, follow the 4103 road to the Forest boundary, then, continue along the 4103 to the junction of a private road in Section 9. Follow the private road north to the completed dozer line in Section 33. Continue north along dozer line to road 015, then follow Squaw Ridge using roads and constructed line to the Benchmark 4601' on the Section 17 and 20 line. Follow the ridges, the 2524 road and constructed lines west to the 046 road junction in Sec. 24 near Spaulding Pond.

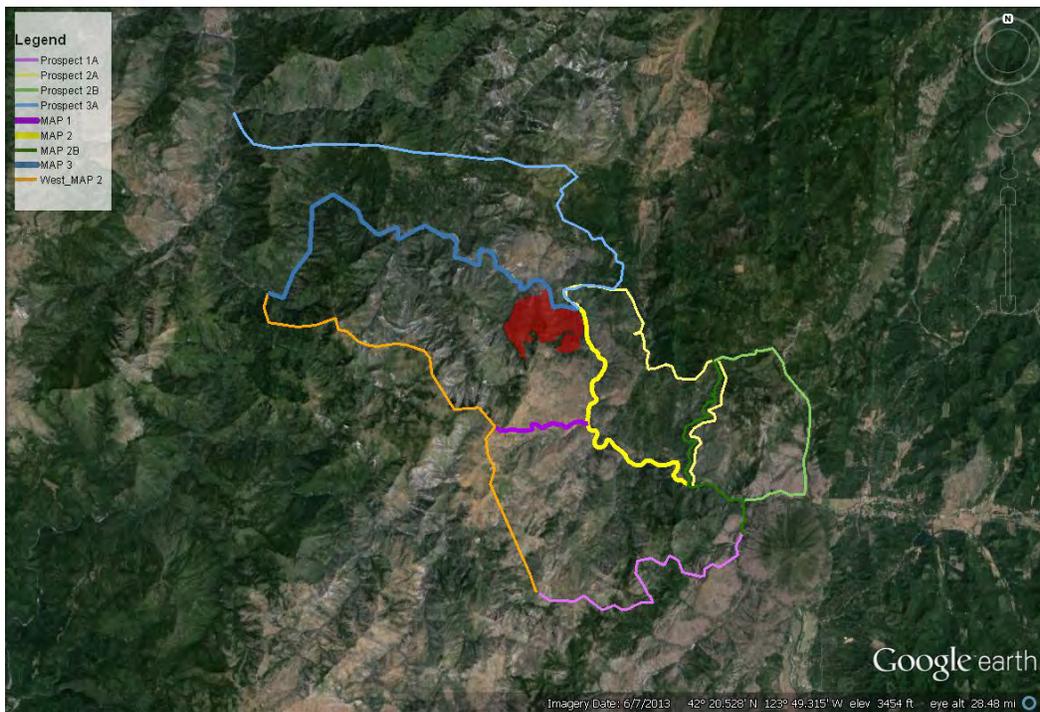
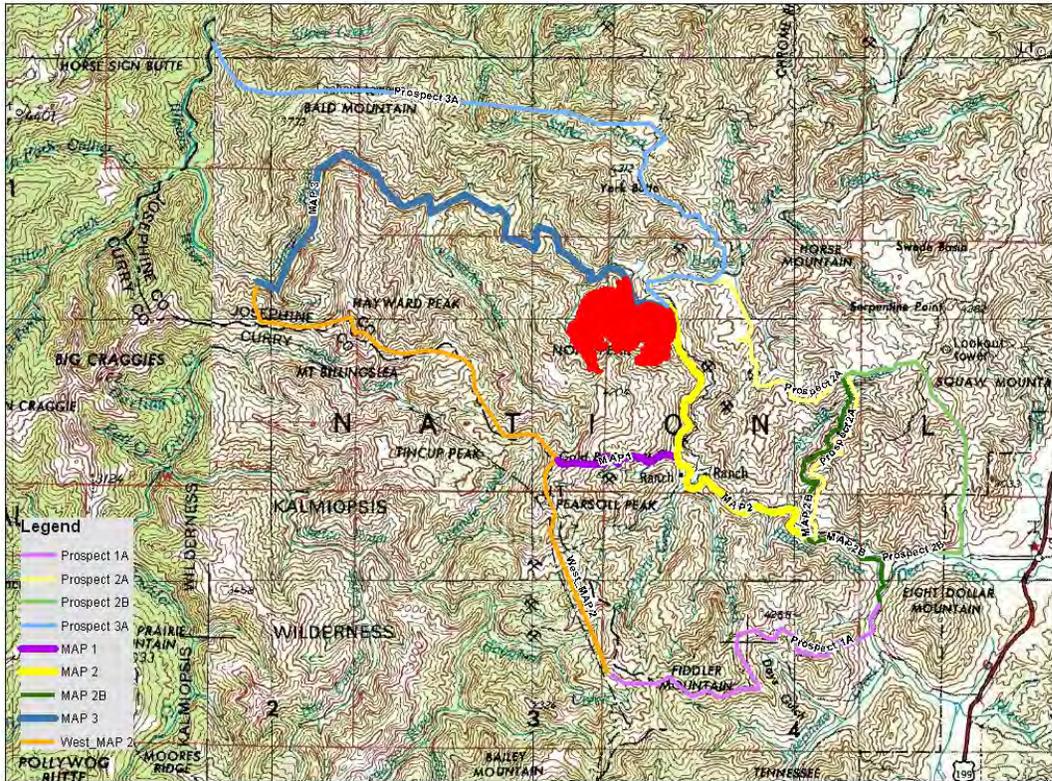


East Prospect 2B and MAP 2B

East Prospect 3- Description- (Shares the same line as Prospect 2A along the 4103 Road from Oak Flat to Brushy Bar) Follow the 4130 road north from Oak Flat to Brushy Bar. From Brushy Bar and the 4105 road follow ridge north in Section 4 to the 702 road. Follow the 702 to the 675 road. Continue north following the 675 road to the 642 road in Section 30. Follow the 642 road west to Chinaman Hat. Continue West on main ridge, following ridgeline to the confluence of Silver Creek and the Illinois River.



East Prospect 3 and MAP 3 – Chinaman Hat 642 road



Combined map of all Management Action Points and Prospects, Labrador Fire

Prospect #	Objectives/Conditions	Actions	Resources Needed Cost
West 1A	<p>Objective: Keep fire North of 4201 Road. Includes Division H.</p> <p>Conditions: The majority of the prep along this Prospect was completed during the Labrador fire. However, in some areas prep is required. The 4201 Road is a main arterial road with a 30 foot road bed and prism. The fuels along the 4201 road are mixed conifer overstory with snags and brush. The crown base height needs to be raised and the canopy closure needs to be opened up in order to hold a burnout.</p>	<p>Decision Point: When the fire breaches MAP 1 and the fire is not contained within the operational shift.</p> <p>Action: If Needed, Prep the 4201 Road for holding and potential burnout. Fire out as needed along road. Firing should only commence when and where specific areas of the line are threatened. Consider aerial ignition for burnout.</p> <p>Values protected: Baby Foot and Eight Dollar Botanical Areas, Eight Dollar Tele-communications site, Recreation Sites.</p>	<p>2 DIVS, 2 TFLD, 2 STCR, 2 Type 1 Crews, 4 Type 2IA crews, 2 STEN and strike team of engines, 2 Water tenders, 1 Dozer, 1 Air Attack, 2 Type 2 Helo, 1 Type 3 Helo, 10 misc overhead for 4 days.</p> <p>Cost : \$ 393,672 (burning only)</p> <p>Exposure Hours: 8,280 (assumes 12 hour days)</p> <p>Probability of Success: High</p> <p>Safety Concerns: Driving</p>
<p>Risk of Implementation: There are risks in the preparation actions of this prospect, including chainsaw work, felling of trees, driving, etc. Firefighter exposure to smoke while holding the line and total overall exposure are all expected risks if the burn out is attempted. Additionally, aerial operations expose pilots and ground crews to aviation based risks.</p> <p>Consequences of not implementing: Not implementing a holding action increases the probability of fire spotting across the 4201 Road and if not contained the fire may ultimately threaten the Eight Dollar Mtn. area and managed lands to the South. Some fire spread will occur in surface fuels, with low to moderate spread rates. An active crown fire would be unlikely, especially in the Biscuit Fire burn area due to lack of overstory fuels.</p> <p>Recommendation: Based on fire behavior modeling, the fire doesn't come close to reaching the Prospect 1A line. A near term fire behavior run was conducted which showed the fire only moving a distance of .7 miles to the South of the 087 road over a 3 day period. This assumes typical summer temps and RH, a 20 mph winds and 5 hours of burn time per day.</p> <p>If the fire somehow, passes MAP 1 and is not contained within the first shift then the proposed action along the 4201 Road should be considered due to the length of time needed to implement action. The District/IC should consider initiating burn out actions when the threat of the fire reaching the 4201 Road is imminent.</p>			

Prospect #	Objectives/Conditions	Actions	Resources Needed Cost
East 2A	<p>Objective: Keep fire West of 4105 Road and South of the 4103. Includes Division E.</p> <p>Condition: The majority of the prep along this Prospect was completed during the Labrador fire. However, some prep work is still required. This prospect is a mixture of dozer line and roads. The 4105 road has a 30 foot road bed and prism with continuous fuels on both sides. Fuels along the road and across this prospect have a heavy dead and down component with numerous snags and a mixed conifer overstory.</p>	<p>Decision Point: When the fire breaches MAP 2A and the fire is not contained within the first operational period.</p> <p>Action: If Needed, Improve existing roadbed and reduce adjacent fuels along the prospect. Burnout along lines where appropriate. Consider aerial ignition and terra torch for burnout.</p> <p>Probability of Success: Mod-High</p> <p>Values to be Protected: Oak Flat inholdings, McCalebs Ranch, Store Gulch, Swinging Bridge</p>	<p>2 DIVS, 2 TFLD, 2 STCR, 4 Type 1 crews, 4 Type 2IA crews, 2 Dozers, 2 STEN and strike team of engines, 3 Water tenders, 2 Type 2 Helo, 1 Type 3 Helo, 10 misc overhead for 7 days.</p> <p>Cost: \$ 858,614 (Burning only)</p> <p>Exposure hrs:18,318 (Assumes 12 hr days)</p> <p>Safety Concerns: Snags, driving, WUI</p>
<p>Risk of Implementation: There are inherent risks in the preparation actions of this prospect, including chainsaw work, machinery, felling of trees, driving, etc. Firefighter exposure to smoke while holding the line and total overall exposure are all expected risks if the burn out is attempted. Additionally, aerial operations expose pilots and ground crews to aviation based risks.</p> <p>Consequences of not implementing: Not implementing a holding action increases the probability of fire spotting beyond the Prospect line into an area to the east that has limited opportunities for containment. If not contained the fire may ultimately threaten previously managed stands, private lands and values at risk to the East. The fire will spread primarily through “torch and spot” mechanisms. (Passive crown fire) Some fire spread will occur in surface fuels, with low to moderate spread rates. An active crown fire would be based on a rare event.</p> <p>Recommendation: The estimated time of the fire reaching the closest point on Prospect A is 4 days after breaching the existing control lines and assuming no suppression efforts. This assumes typical summer temps and RH, 20 mph winds and 5 hours of burn time per day. If the fire crosses MAP 2A and is not contained within the first shift then consider the continued prep along the prospect line This should commence immediately due to the length of time needed to implement action. The District/IC should consider initiating burn out actions when the threat of the fire reaching the prospect is imminent.</p>			

Prospect #	Objectives/Conditions	Actions	Resources Needed Cost
East 2B	<p>Objective: Keep fire West and South of Prospect 2B</p> <p>Condition: Some prep work has been completed along this prospect. This prospect is a mixture of dozer line and roads with 20-30 foot prisms. Fuels along this prospect have a heavy dead and down component with numerous snags and mixed conifer overstory. The crown base height needs to be raised and the canopy closure needs to be opened up in order to hold a burnout.</p>	<p>Decision Point: When the fire breaches MAP 2B and the fire is not contained within the first operational period.</p> <p>Action: If needed, prep and conduct burnout operations along the dozer line and roads in Prospect 2B. Consider aerial ignition.</p> <p>Probability of Success: Mod to High</p> <p>Values to be Protected: Private inholdings</p>	<p>2 DIVS, 2 TFLD, 2 STCR, 2 T1 crews, 4 Type 2IA crews, 4 fellers, 1 STEN, 5 T6 Engines, 2 Dozers, 2 Water Tenders, 1 Air Attack, 2 Type 2 Helos, 1 Type 3 Helo, 10 Misc overhead for 4 days, (Prep/Burn)</p> <p>Cost: \$ 372,856 (Prep and Burn)</p> <p>Exposure hrs:7,656 (Assumes 12 hr days)</p> <p>Safety Concerns: Snags and Driving, limited access.</p>
<p>Risk of Implementation: There are inherent risks in the preparation actions of this prospect, including chainsaw work, felling of trees, driving, etc. Firefighter exposure to smoke while holding the line and total overall exposure are all expected risks if the burn out is attempted. Additionally, aerial operations expose pilots and ground crews to aviation based risks.</p> <p>Consequences of not implementing: Not implementing a holding action on Prospect 2B increases the probability of fire spreading into an area that has limited containment features. If not contained the fire may ultimately threaten private land, managed stands and other values at risk to the East. The fire will spread primarily through “torch and spot” mechanisms. (Passive crown fire) Some fire spread will occur in surface fuels, with low to moderate spread rates. An active crown fire would be based on a rare event.</p> <p>Recommendation: The estimated time of the fire reaching the closest point along Prospect 2B is 5 days after breaching MAP 2B and assuming no suppression efforts. This assumes typical summer temps and RH, 20 mph winds and 5 hours of burn time per day. If the fire escapes the current containment lines and is not contained within the first shift consider implementation of Prospect 2B. The District/IC should consider initiating burn out actions when the threat of the fire reaching the prospect is imminent.</p>			

Prospect #	Objectives/Conditions	Actions	Resources Needed Cost
<p>East 3</p>	<p>Objective: Keep the fire South of Prospect 3. Condition: No Prep work has been done for this Prospect. Road and dozer line construction. The 642 Road has a 20 foot road bed and prism. The ridge beyond the end of the road at Chinaman Hat is a dominant feature running West. Fuels across this prospect have a heavy dead and down component with numerous snags and a mixed conifer overstory. The crown base height needs to be raised and the canopy closure needs to be opened up in order to hold a burnout.</p>	<p>Decision Point: When the fire crosses MAP 3 and the fire is not contained within the first operational period.</p> <p>Action: Prep road along the 642 road to Chinaman Hat and then prep the ridge to the West to the confluence of Silver Creek and the Illinois River for burnout. Consider Aerial ignition for burnout.</p> <p>Probability of Success: Low to Mod.</p> <p>Values to be Protected- Agness, Oak Flat, Cohners Place</p>	<p>3 DIVS, 4 TFLD, 4 STCR, 6 T1 crews, 6 Type 2IA crews, 1 STEN, 5 T6 Engines, 2 Water tenders, 2 Dozers, 4 falling modules, 1 Feller Buncher, 1 Masticator, 1 Air Attack, 1 Type 1, Helo, 2 Type 2 Helos, 1 Type 3 Helo, 10 misc. overhead for 10 days. (If only working to end of 642 road then 3 days.)</p> <p>Cost: \$ 1,632,512 (Prep and burn) Exposure hrs:35,208 (Assumes 12 hr. days)</p> <p>Safety Concerns: Snags and driving.</p>
<p>Risk of Implementation: There are inherent risks in the preparation actions of this prospect, including chainsaw work, machinery, felling of trees, driving, etc. Firefighter exposure to smoke while holding the line and total overall exposure are all expected risks if the burn out is attempted. Additionally, aerial operations expose pilots and ground crews to aviation based risks.</p> <p>Consequences of not implementing: Not implementing a holding action increases the probability of fire spreading past one of the last defensible boundaries before having to consider the Biscuit Fire containment lines. If not contained the fire may ultimately threaten values at risk to the North and West. The fire will spread primarily through “torch and spot” mechanisms. (Passive crown fire) Some fire spread will occur in surface fuels, with low to moderate spread rates. An active crown fire would be based on a rare event.</p> <p>Recommendation: This is a very labor intensive Prospect. This prospect should only be implemented after a utilizing the risk management process comparing risk to values to be protected. There is a low probability of the fire reaching the closest point on the Prospect 3A. A near term fire projection indicated that it will take 6 days after crossing MAP 3 and assuming no suppression efforts for the fire to reach the Prospect line. This assumes typical summer temps and RH, 20 mph wind, 5 hours of burn time per day. Consider implementation of Prospect 3, if the fire crosses MAP 3 and is not contained within the first shift. Prep along the prospect line should commence immediately due to the length of time needed to implement action. The District/IC should consider initiating burn out actions when the threat of the fire reaching the prospect is imminent.</p>			