

Uncles Complex


Long Range Implementation Plan

Klamath National Forest:
Salmon/Scott River Ranger District
Ukonom Ranger District

August 30, 2006



Rocky Mountain #1
Interagency Fire Use Management Team



**LONG RANGE IMPLEMENTATION PLAN
UNCLES COMPLEX
KLAMATH NATIONAL FOREST**

SIGNATURE PAGE

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Introduction

The Uncles and Hancock Fires were started by lightning on July 23, 2006. Initially the Wildland Fire Situation Analysis (WFSA) was completed in 2 separate documents by the Salmon/Scott River and Ukonom Ranger Districts. The Appropriate Management Response (AMR) resulted in both fires being managed with a confinement strategy. The second WFSA developed by the Northern California Type 2 Team combined the fires into one analysis document. Specific activities detailed in the initial Long Term Implementation Plan (August 2006) associated with WFSA#2 have been revised in this Plan.

Delegation of Authority for management of the Uncles Complex was given to the Rocky Mountain Fire Use Management Team-Hahnenberg (FUMT) on August 20, 2006. In accordance with the delegation the FUMT, developed the Long Range Implementation Plan with fire projections extended until the season ending event.

Long Range Implementation Plan

The Uncles and Hancock Fires will continue to be managed under the AMR of confinement, utilizing direct and indirect actions and natural barriers. As conditions change, considerations described as Area Trigger Criteria coupled with fire becoming established in identified areas (yellow and orange map polygons) could result in a change of strategy from confinement to control.

Long range planning is based on modeling of weather and fire behavior and the probability of movement by time period, based on 2006 season severity, historical weather observations (1971-2005 at Sawyers Bar RAWS), and observed average daily growth of the Uncles and Hancock Fires. Fire growth projections and probability of fire movement are derived from the Rare Event Risk Assessment (RERAP) and Fire Spread Probability (FSpro) models that consider:

- Vegetation characteristics
- Fire History, including historic burn patterns and severity
- Fuel loading
- Slope
- Aspect
- Observed fire behavior and weather 7/28 through 8/28
- Historical weather observations (1970-2005)
- Predicted weather
- Distance to points/areas of concern.

I - Objectives

The objectives below are taken from direction or guidance portrayed in other documents as shown and based on:

1. The Klamath National Forest Land and Resource Management Plan (LRMP),
2. Specific objectives developed for the management of the Complex from the Delegation of Authority issued to the Team (Ref. 5130, 8/20/06) and,
3. Incident Objectives developed for management of the Complex as shown in the Incident Action Plan.

In addition, Chapter 4 of the Klamath National Forest Fire Management Plan was reviewed to ensure the AMR being employed is in compliance with direction set for the Forest in the LRMP as guided by the Fire Management Plan.

Land and Resource Management Plan Objectives

1. Fire Management, 22-2, Wildland Fires shall receive the appropriate suppression response (see Section III; Table III-4). Timeliness is essential but safety and cost efficiency, while considering the value of the threatened resource, shall guide the fire suppression response strategy. A range of response tactics may be appropriate. Carefully analyze the current and predicted wildland fire situation when determining the appropriate management response.
2. Fire Management, 22-3, Apply the minimum suppression methods to all lands. Control or manage the spread of fire. The suppression method shall be commensurate with the wildland potential to spread or cause undesirable impacts. Firefighter and public safety shall be the highest priority. Select procedures, tools and equipment that least impact the environment. Use hot spot detection devices whenever possible. These tactics apply to mop-up of wildland fires also.

Delegation of Authority Objectives

1. Give highest priority in planning and execution of management strategies to the health and safety of firefighting personnel and the public...
2. Give high priority to the protection of Threatened and Endangered species. Maximize protection of soil, water, heritage, and scenic resources. Minimize high-intensity burned acreage in highly scenic areas and old growth stands. Give preference to the use of water or foam as a suppressant; avoid the use of retardant in drainage areas or near lakes and streams.
3. These fires are primarily Wilderness fires in very hazardous terrain. We have established broad perimeters with the objective of containing the fires within Wilderness as much as possible and protecting private property and key resources.
4. Work within current wilderness authorizations and follow the Minimum Impact Suppression Methods included in your briefing notebook.

5. Be sensitive to Native American cultural concerns.
6. Manage costs to keep them commensurate with values-at-risk and to minimize cost plus loss.
7. Establish a fire information system that provides timely public information and notification and coordinates closely with the Forest Public Affairs Officer and District Ranger Ray Haupt. Keep local communities informed of all activities.

Incident Action Plan Objectives

1. Ensure the health and safety of firefighters and the public.
2. Operational activities will:
 - a) Maximize the effectiveness of limited fire fighting resources while implementing the Appropriate Management Response (AMR).
 - b) Be designed in accordance with the Long-Term Implementation Plan.
3. Provide a work environment of mutual respect and cooperation.
4. Contain costs while maintaining personnel safety.
5. Keep local communities informed of fire activities within the context of the AMR.
6. Assist the Forest in initial attack when requested.

II - Maximum Confinement Area (MCA)

The Maximum Confinement Area (MCA) delineates the geographic limits of the fire area as defined by the capability of management actions to meet resource objectives, defensibility, natural barriers, safety, mitigation of risk and availability of suppression resources.

Acres in MCA

The Uncles-Hancock MCA encompasses a total of 204,225 acres within the Salmon/Scott Ranger District, of the Klamath National Forest and the Ukoum Ranger District managed by the Six Rivers National Forest.

Segments are portions of the MCA that are delineated in response to their location to the fires and special resource concerns and objectives. Those segments considered as naturally defensible have a very low probability of either fire crossing the MCA due to respective locations of the fires. For portions of any segment not considered naturally defensible, a physical description and identification of potential fire spread direction are provided, while trigger points and/or trigger areas and planned mitigation actions are identified in the Trigger Points and Trigger Areas section, (Section IV).

Segment 1: (Forks of Salmon – Mule Bridge Campground)

This segment begins at the Forks of Salmon and extends northeast along Sawyers Bar Road following the North Fork of the Salmon River to Little North Fork Picnic Area. The segment crosses the North Fork of the Salmon River to a west-east running ridgeline north of Jackass Gulch and extends to Mule Bridge Campground.

Segment 2: (Mule Bridge Campground – Marble Mountain)

This segment starts at Mule Bridge Campground along the North Fork Salmon River and follows the wilderness boundary north along Snoozer Ridge to the head of Big Creek. The segment follows the Salmon River/Scott River District boundary along a north-south trending ridgeline to Shelly Meadows. The segment continues along the ridgeline northwest to Man Eaten Lake, following the Pacific Crest Trail to a point north of the trail, northwest of Summit Lake, (T43N, R11W, Sec. 32 NE ¼). The segment turns west and extends to Marble Mountain.

Segment 3: (Marble Mountain – Bald Butte)

This segment begins at Marble Mountain and extends west along the highest ridgeline along the Marble Mountain Wilderness boundary to Green Granite Lake. From Green Granite Lake the segment turns southwest and follows the ridgeline past Haypress Meadows to where Bald Butte meets the Klamath River.

Segment 4: (Bald Butte – Forks of Salmon)

This segment begins where the toe of Bald Butte meets the Klamath River then follows California 96 south along the Klamath River to the intersection of California 96 and Forest Road 93 at Somes Bar. The segment continues east along Forest Road 93 (Salmon River Road) to Bannon Bar where it turns south and extends to the intersection with Sawyers Bar Road at Forks of Salmon.

III - Mitigation Actions

Mitigation actions are processes that are implemented to avoid or minimize impacts to the values at risk.

A description of values at risk, location and mitigation measures are included in the following table.

| VALUES AT RISK | | |
|----------------|---|--|
| Ref # | Description of Values at Risk | Measures |
| U-1 | English Peak Lookout 41.357 N 123.074 W Wood/Metal Roof | Wrapped by previous IMT |
| U-2 | Tom Taylor Cabin 41.399 N 123.225 W Wood | Wrapped by previous IMT |
| U-3 | Ahlgren's (Hayden's) Cabin 41.355 N 123.246 W Wood | Clear around buildings & wrap |
| U-4 | Wooley Camp (Hoover Cabin) 41.426 N 123.383 W Wood | Cleared & Wrapped 08/24/06 |
| U-5 | Fowler Cabin and Bridge Creek Bridge 41.442 N 123.354 W Wood | Cleared & Wrapped 08/24/06 |
| U-6 | Lower Abbott's Ranch and Bridge 41.408 N 123.100 W Metal | Clear around buildings |
| U-7 | Recreational Residences 41.341 N 123.073 W Wood | Clear around buildings & wrap |
| U-8 | Marble Valley Cabin 41.566 N 123.199 W Wood | Wrap |
| U-9 | Mule Bridge Corrals 41.357 N 123.074 W Wood | Clear around corrals |
| U-10 | Mule Bridge 41.357 N 123.074 W Metal/wood Decking | Wrap exposed wood/Cover decking with 3" soil |
| U-11 | Six Mile Bridge 41.4035 N 123.098 W Metal/Wood Decking | Wrap exposed wood/Cover decking with 3" soil |
| U-12 | Haypress Bridge 41.433 N 123.379 W Metal/Wood Decking | Wrapped Decking covered with 3" soil |
| U-13 | National Champion Record Tree | Eliminate potential for crown fire |
| U-14 | Salmon River Structures (Salmon River Community Risk Assessment) | Refer to Appendix C |

| | | |
|------|---|---|
| U-15 | Crapo Creek Watershed | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-16 | Protected Activity Centers (PACs) and Nesting Sites | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-17 | Fisheries and Riparian | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-18 | Recreation Sites | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-19 | National Champion Record Tree | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-20 | Sensitive Plant Species | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-21 | Noxious Weeds | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-22 | Cultural Resources | Refer to Resource Advisors Mitigation & Constraints in Appendix B |
| U-23 | Range Management | Refer to Resource Advisors Mitigation & Constraints in Appendix B |

* Needs Structure assessment and plan developed

IV - Trigger Points and Trigger Areas

Trigger Points

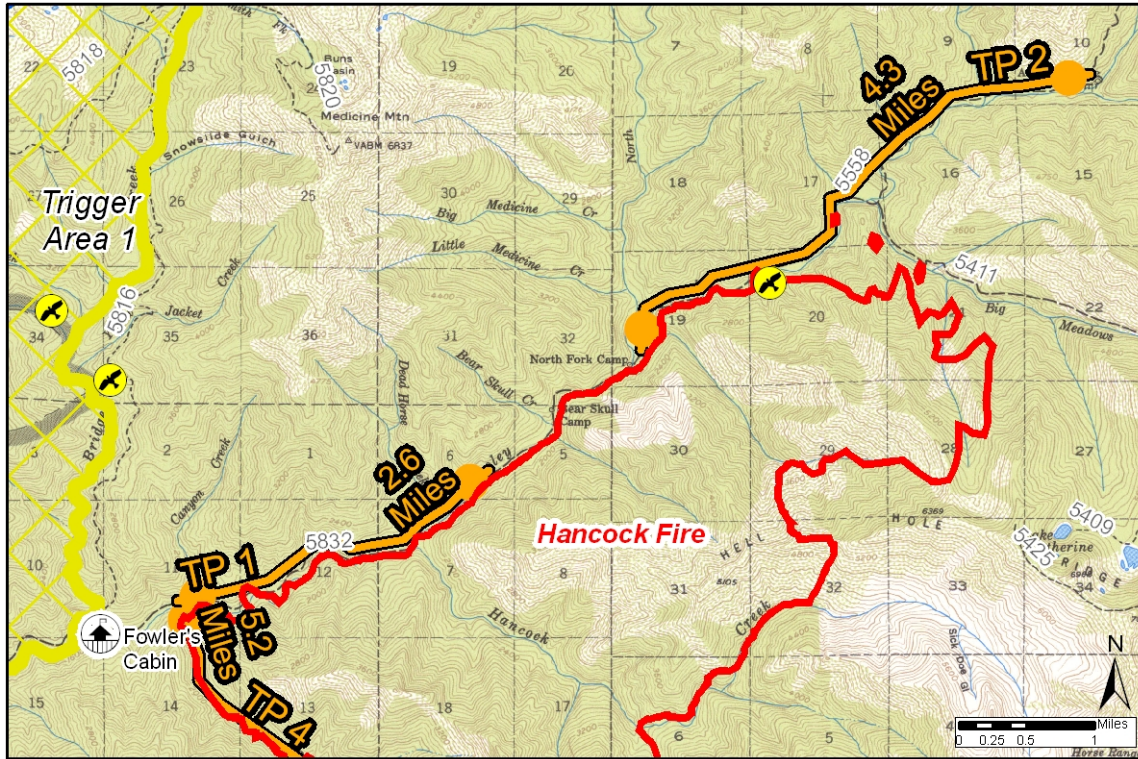
Trigger Points (TPs) are mapped specific locations where holding, checking or other mitigation actions can be initiated at the discretion of an Incident Management organization to limit or prevent fire spread that threatens the MCA or protect identified values at risk from fire damage or negative impacts. Trigger points are individual actions which describe the resources required to fulfill the planned mitigation actions.

When any fire crosses or hits any of the TPs, the resources on the ground will notify Operations. Operations will ensure that the IC and Information Officer are informed. When a TP is reached and management response is ineffective, then actions should be reevaluated for alternative.

TRIGGER POINT #1

| | |
|----------------------------------|---|
| Trigger Point Description | Trigger point begins at the intersection of Wooley Creek and Rock Creek above Fowler’s Cabin. It extends 2.6 miles up Wooley Creek to Bear Skull helispot. |
| Actions | <p>When fire gets established north of Wooley Creek potential for spread to Medicine Mountain and impacting cultural resources exists. Notify the Karuk Tribe of the potential threat and request a Tribal Resource Advisor.</p> <p>Initiate aggressive direct or indirect attack as fire behavior permits to keep fire spread to a minimum. Utilize Type 1 or Type 2 helicopters as available and Air Tankers to slow fire spread until crews are in place. Utilize Type 2 helicopters for crew transport & logistical support when possible. Place lookouts at Black Mountain and English Peak to monitor weather, fire behavior and growth. If fire turns down Wooley Creek to the west initiate structure protection measures at Fowler’s Cabin, Wooley Camp and the 2 bridges according to the Values at Risk Table in Chapter III of the “Long Range Implementation Plan”.</p> <p>Keep retardant out of creeks, specify the use of water only.</p> |
| Resources Recommended | <p>2 – Type 1 Helicopters 2 – Type 2 Helicopters 2 – Type 1 Crews 8 - Smokejumpers 2 – Air Tankers 1 – DIVS 3 Days</p> |
| Date Completed | |

See next page for map.



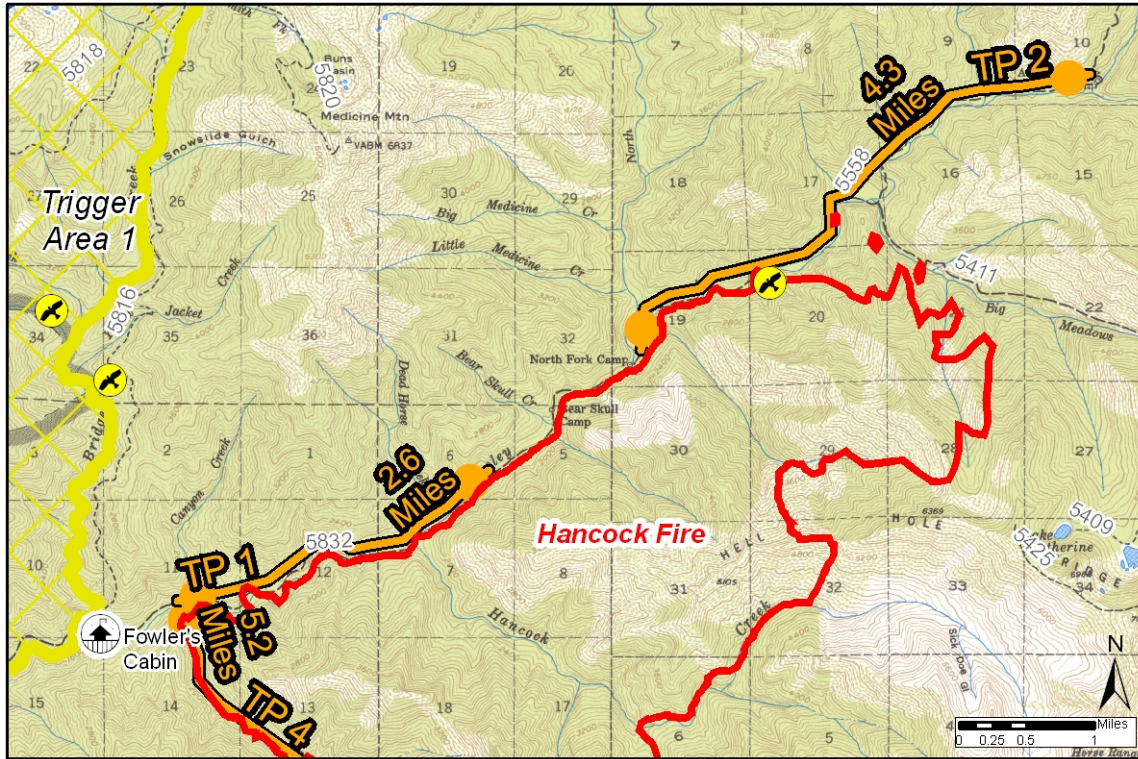
For Trigger Point #1 Actions Taken and Updates see attached page(s).

Notes:

TRIGGER POINT #2

| | |
|---|--|
| Trigger Point Description | Trigger point begins in Wooley Creek at the mouth of the N. Fork of Wooley Creek. It extends 4.3 miles up Wooley Creek and ends at the mouth of S. Fork of Wooley Creek. |
| Actions | <p>When fire gets established north of Wooley Creek, between N. Fork of Wooley Creek and Big Meadows Creek potential for spread to the west towards Medicine Mountain and impacting cultural resources exists. Notify the Karuk Tribe of the potential threat and request a Tribal Resource Advisor.</p> <p>Actions required fall into 2 scenarios:</p> <ol style="list-style-type: none"> 1) If fire is moving west towards Medicine Mountain initiate aggressive direct or indirect attack as fire behavior permits to keep fire spread to a minimum. Utilize Type 1 helicopters and Air Tankers to slow fire spread until crews are in place. Utilize Type 2 helicopters for crew transport & logistical support when possible. Place lookouts at Black Mountain and English Peak to monitor weather, fire behavior and growth. 2) If fire is moving northeast place lookouts at Black Mountain and English Peak to monitor fire behavior and growth. Utilize Type 1 and Type 3 helicopters as available to check fire spread to west as needed. Utilize Type 3 helicopter for aerial recon and logistical support and transport of lookouts when possible. |
| Resources Recommended Scenario 1 | 2 – Type 1 Helicopters 2 – Type 2 Helicopters 2 – Type 1 Crews 8 - Smokejumpers 2 – Air Tankers 1 – DIVS 3 Days |
| Resources Recommended Scenario 2 | 4 – FEMO 1 – Type 1 Helicopter 1 – Type 3 Helicopter 5 Days |
| Date Completed | |

See next page for map.



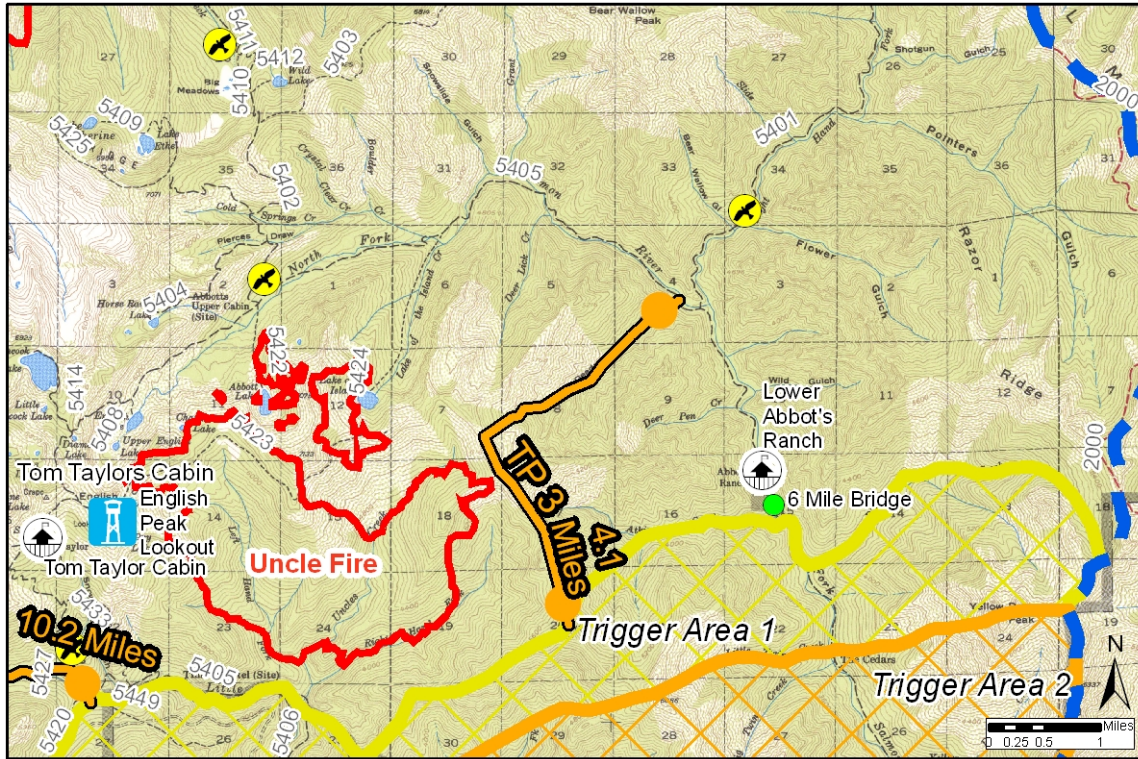
For Trigger Point #1 Actions Taken and Updates see attached page(s).

Notes:

TRIGGER POINT #3

| | |
|--|--|
| <p>Trigger Point Description</p> | <p>Trigger point begins at intersection of N. Fork of Salmon River and Deadman Gulch and extends southwest up Deadman Gulch to the ridge east of Right Hand Fork. It extends south along the ridge to the peak along the Marble Mountains in T41 N R11 W Sec. 20 (center). Distance along the trigger point is 4.1 miles.</p> |
| <p>Actions</p> | <p>There is a high possibility of the Uncles Fire reaching TP 3 and spreading towards Lower Abbott’s Ranch and 6 Mile Bridge.</p> <p>Actions required fall into 2 scenarios: (Resources remain the same; actions and timelines differ)</p> <ol style="list-style-type: none"> 1) When fire gets established east of Right Hand Fork below TP3 initiate structure protection at Lower Abbott’s Ranch and 6 Mile Bridge. Utilize Type 1 or Type 2 helicopters as available to slow fire spread until structure protection measures are completed. Utilize Type 2 helicopter to sling pump kits and related equipment to Lower Abbott’s Ranch and provide logistical support as needed. Utilize Type 1 crew to complete structure protection measures, plumb hose lays, clear around buildings and wrap cabin and according to the Values at Risk Table in Chapter III of the “Long Range Implementation Plan”. 2) When fire flanks north of Deadman Gulch and turns south towards Lower Abbott’s Ranch hold fire west of N. Fork of Salmon River with Type 1 or Type 2 helicopters as available. Based on potential for spread towards the Lower Abbott’s Ranch, utilize Type 2 helicopter to provide sling pump kits and related equipment to Lower Abbott’s Ranch and provide logistical support as needed. Utilize Type 1 crew to complete structure protection measures, plumb hose lays, clear around buildings and wrap cabin and bridge according to the Values at Risk Table in Chapter III of the “Long Range Implementation Plan”. |
| <p>Resources Recommended Scenario 1</p> | <p>2 – Type 1 Helicopters (2 Days) 1 – Type 2 Helicopter (2 Days) 1 – Type 1 Crew (2 Days) 1 – DIVS (2 Days)</p> |
| <p>Resources Recommended Scenario 2</p> | <p>2 – Type 1 Helicopters (4 Days) 1 – Type 2 Helicopter (2 Days) 1 – Type 1 Crew (2 Days) 1 – DIVS (2 Days)</p> |
| <p>Date Completed</p> | <p></p> |

See next page for map.



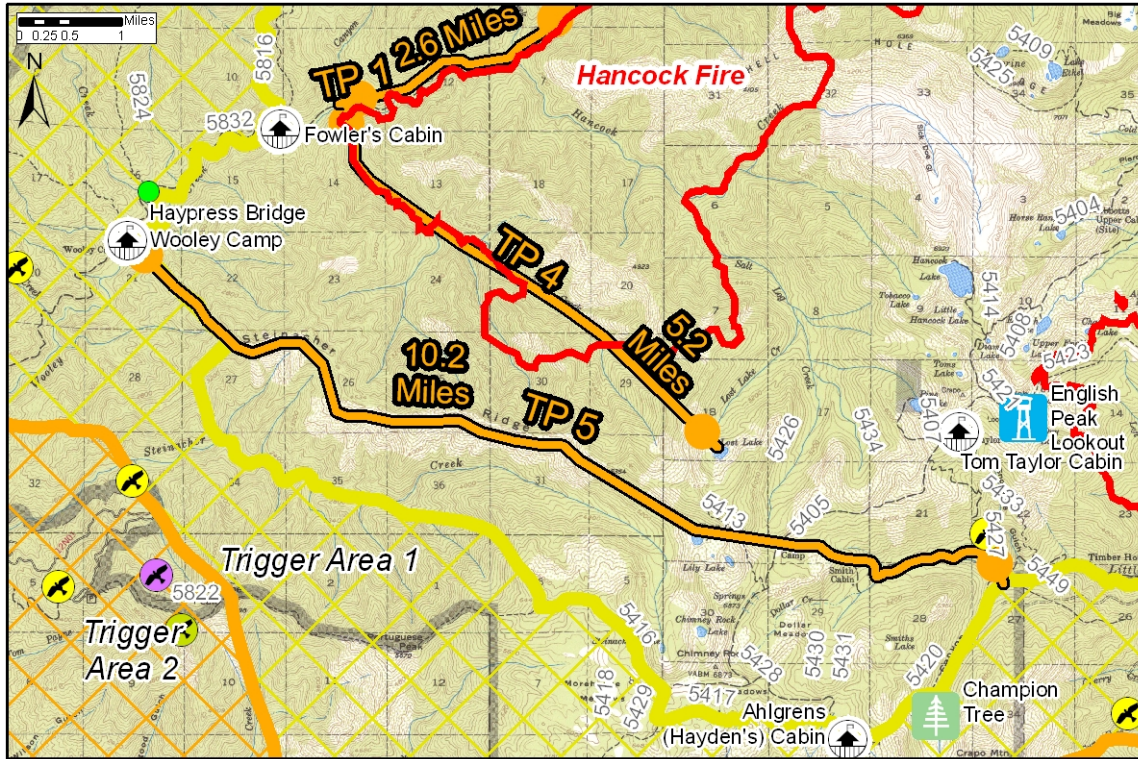
For Trigger Point #1 Actions Taken and Updates see attached page(s).

Notes:

TRIGGER POINT #4

| | |
|----------------------------------|---|
| Trigger Point Description | Trigger point begins at Lost Lake at the head of Rock Creek. It extends 5.2 miles down Rock Creek to Wooley Creek. |
| Actions | When fire crosses Rock Creek and gets established on the northeast face of Steinacher Ridge utilize Type 1 or Type 2 helicopters as available to slow fire spread and initiate line construction and prepare for possible burnout along Tom Payne Ridge. Utilize Type 2 helicopters for crew transport & logistical support when possible. Post lookouts at Black Mountain and English Peak to monitor fire behavior and growth. Initiate structure protection measures at Fowler's Cabin, Wooley Camp and the 2 bridges according to the Values at Risk Table in Chapter III of the " Long Range Implementation Plan ". |
| Resources Recommended | 2 - Type 1 Helicopters 2 - Type 2 Helicopters 4 – Type 1 Crews 1 – DIVS 1 – SOFR 6 Days |
| Date Completed | |

See next page for map.



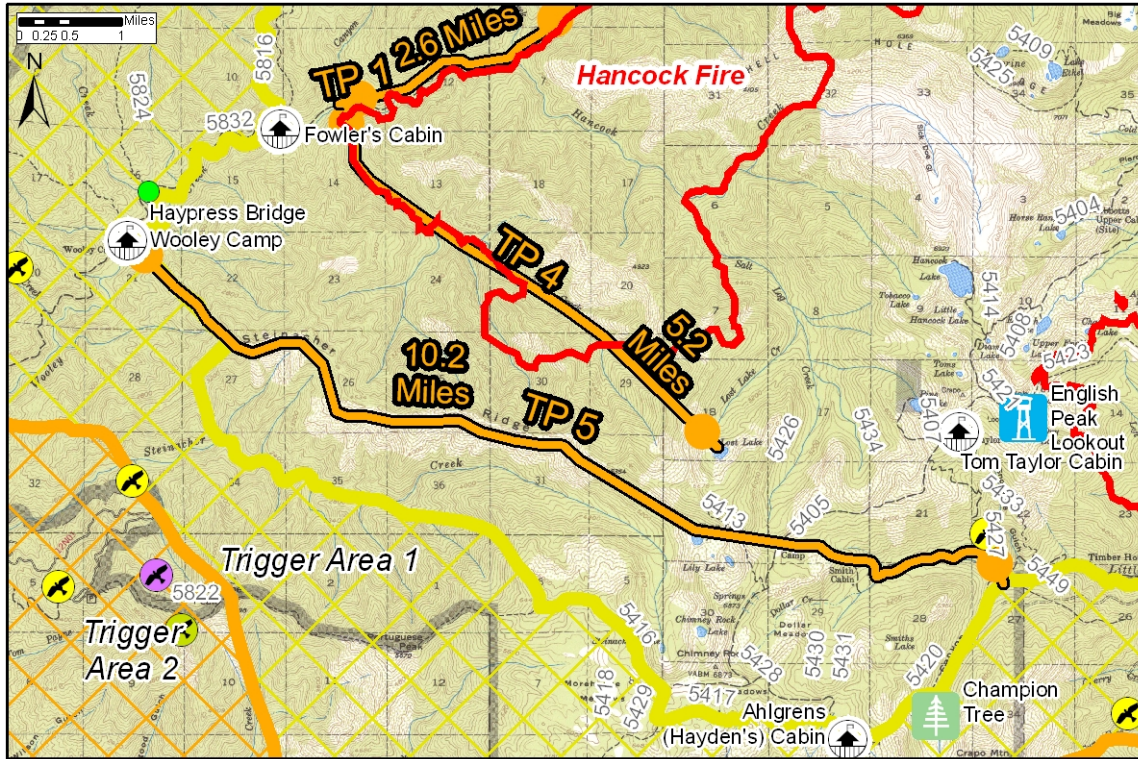
For Trigger Point #1 Actions Taken and Updates see attached page(s).

Notes:

TRIGGER POINT #5

| | |
|----------------------------------|---|
| Trigger Point Description | Trigger point begins at the intersection of FS trails 5413 and 5449 at the head of Devils Canyon and extends west along trail 5413 to Clear Lake. It continues northwest along Steinacher Ridge to Wooley Camp. Distance along the trigger point is 10.2 miles. |
| Actions | When holding actions triggered by TP4 fail along Steinacher Ridge and fire crosses TP5, slow fire with Type 1 or Type 2 helicopters as available and initiate aggressive burnout operations north of Steinacher Creek. Utilize Type 1 crews with helicopter support to conduct burnout operations. One PSD equipped helicopter is recommended. Initiate structure protection measures at Hayden’s Cabin and the National Champion Tree according to the Values at Risk Table in Chapter III of the “ Long Range Implementation Plan ”. |
| Resources Recommended | 2 - Type 1 Helicopters 2 - Type 2 Helicopters (1 with PSD capabilities) 4 – Type 1 Crews 1 – DIVS 1 – SOFR 4 Days |
| Date Completed | |

See next page for map.

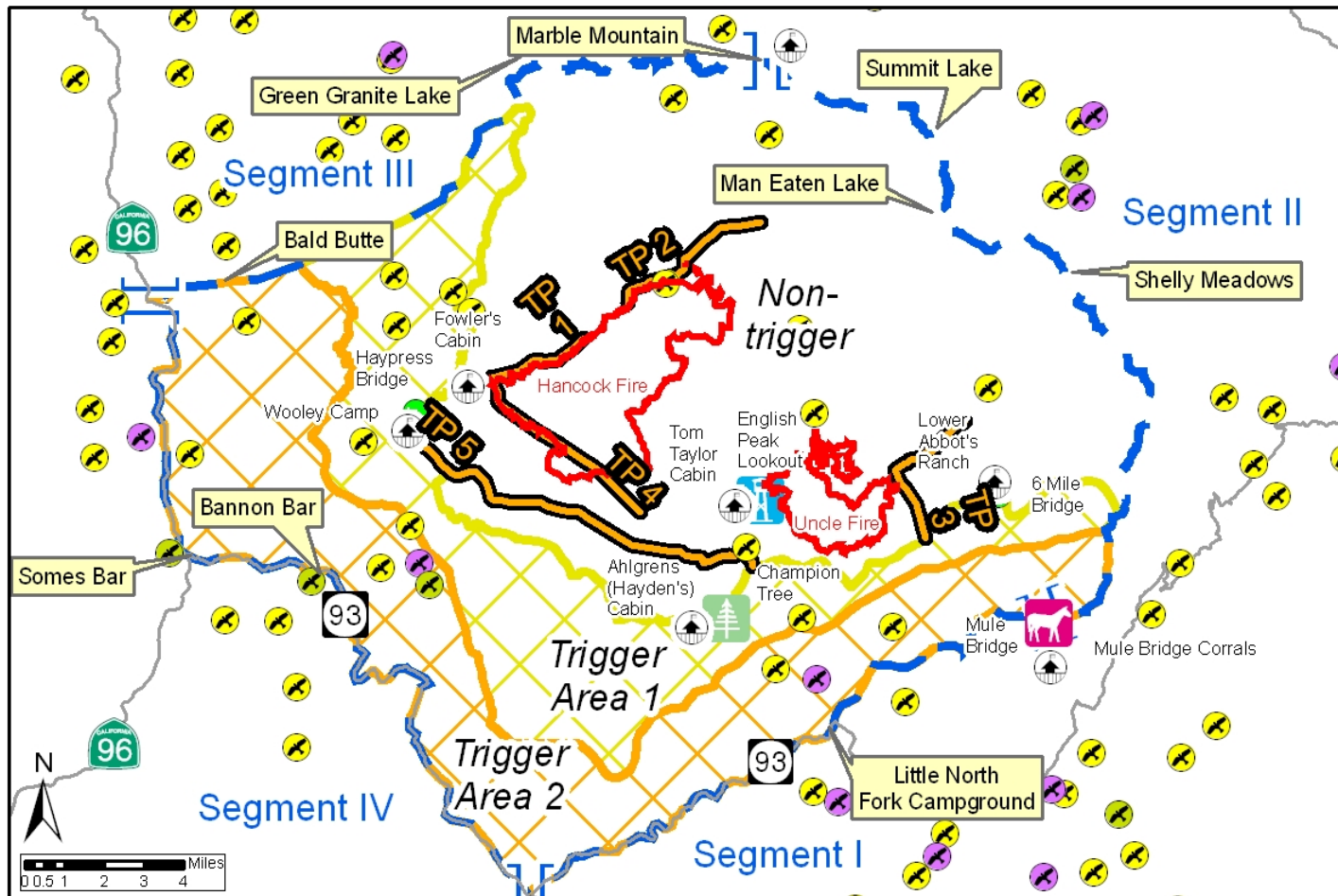


For Trigger Point #1 Actions Taken and Updates see attached page(s).

Notes:

Trigger Areas

Trigger Areas (TAs) are broad geographic locations where a combination of an established fire that exceeds the suppression efforts of available resources in a predetermined time with one or more weather or fuels criteria initiates a weighted application. The application and timing of a response is determined by the probability of a season ending event that falls within timeframes based on long-range fire progression models.



| TRIGGER AREA 1 |
|---|
| <p>Fire is established in the trigger area and cannot be contained with forces available within two operational periods combined with any combination of the following criteria elements:</p> <ol style="list-style-type: none"> 1) Sustained winds of greater than 10 mph are predicted and relative humidity less than 13% for more than 12 hours. 2) Inversion is broken or predicted to break and/or dry trough expected. 3) Live Fuel Moisture for Manzanita fuel type is at less than 90% and/or ERC at Sawyers Bar is greater than the 90th percentile. |
| APPLICATION AND TIME OF SEASON |
| <p>A. Fire Established plus 1 of 3 criteria prior to 9/28/06:</p> <p>Complete an Incident Complexity Analysis to assess current and predicted fire behavior, resource needs and availability, values at risk, safety, ownership, external influences, change in strategy and incident management needs. Results of the Incident Complexity Analysis should dictate the level of Incident Management Team recommended to continue action on the fire.</p> <p>Continue ongoing holding actions currently in place and initiate all recommended structure protection and/or resource mitigation actions pertinent to potential fire spread.</p> |
| <p>B. Fire Established plus 2 of 3 criteria from 9/29/06 to 10/11 06:</p> <p>Complete an Incident Complexity Analysis to assess current and predicted fire behavior, resource needs and availability, values at risk, safety, ownership, external influences, change in strategy and incident management needs. Results of the Incident Complexity Analysis should dictate the level of Incident Management Team recommended to continue action on the fire.</p> <p>Continue ongoing holding actions currently in place and initiate all recommended structure protection and/or resource mitigation actions pertinent to potential fire spread.</p> |
| <p>C. Fire Established plus 3 of 3 criteria after 10/11/06:</p> <p>Complete an Incident Complexity Analysis to assess current and predicted fire behavior, resource needs and availability, values at risk, safety, ownership, external influences, change in strategy and incident management needs. Results of the Incident Complexity Analysis should dictate the level of Incident Management Team recommended to continue action on the fire.</p> <p>Continue ongoing holding actions currently in place and initiate all recommended structure protection and/or resource mitigation actions pertinent to potential fire spread.</p> |

TRIGGER AREA 2

Fire is established in the trigger area and cannot be contained with forces available within **one** operational period combined with any combination of the following criteria elements:

- 1) Sustained winds of greater than 10 mph are predicted and relative humidity less than 13% for more than 12 hours.
- 2) Inversion is broken or predicted to break and/or dry trough expected.
- 3) Live Fuel Moisture for Manzanita fuel type is at less than 90% and/or ERC at Sawyers Bar is greater than the 90th percentile.

APPLICATION AND TIME OF SEASON

A. Fire Established prior to 9/28/06:

Complete an Incident Complexity Analysis to assess current and predicted fire behavior, resource needs and availability, values at risk, safety, ownership, external influences, change in strategy and incident management needs. Results of the Incident Complexity Analysis should dictate the level of Incident Management Team recommended to continue action on the fire.

Continue ongoing holding actions currently in place and initiate all recommended structure protection and/or resource mitigation actions pertinent to potential fire spread.

B. Fire Established plus 1 of 3 criteria from 9/29/06 to 10/11 06:

Complete an Incident Complexity Analysis to assess current and predicted fire behavior, resource needs and availability, values at risk, safety, ownership, external influences, change in strategy and incident management needs. Results of the Incident Complexity Analysis should dictate the level of Incident Management Team recommended to continue action on the fire.

Continue ongoing holding actions currently in place and initiate all recommended structure protection and/or resource mitigation actions pertinent to potential fire spread.

C. Fire Established plus 2 of 3 criteria after 10/11/06:

Complete an Incident Complexity Analysis to assess current and predicted fire behavior, resource needs and availability, values at risk, safety, ownership, external influences, change in strategy and incident management needs. Results of the Incident Complexity Analysis should dictate the level of Incident Management Team recommended to continue action on the fire.

Continue ongoing holding actions currently in place and initiate all recommended structure protection and/or resource mitigation actions pertinent to potential fire spread.

V - Threats to MCA

The primary threat to any segment of the MCA is a major wind driven event associated with dry conditions resulting in long range spotting and sustained crown runs. These events cannot be stopped after initiation, except by a change in weather. Planned mitigation actions for Trigger Areas 1 & 2 address initial response and resource needs to protect the MCA boundary. Threat to each segment was determined based on Rare Event Risk Assessment Process (RERAP) and Fire Spread Probability (FSpro) results (see map below):

Segment I

Northeast to northwest winds pose a threat to the MCA and structures along the North Fork Salmon and Little North Fork Salmon Rivers. The threat to this segment would be from the southeast corner of the Uncles Fire. Though FSpro results show a high probability of the fire reaching this segment, suppression actions have been taken in Right Hand Creek of Uncles which has reduced the probability/threat substantially. If the Uncles Fire becomes active to the south/southeast, initiate the structure protection according to the Salmon River Community Risk Assessment located in Appendix C.

Segment II

Northwest to west winds pose a threat of spreading the Uncles Fire east towards the MCA. If fire crosses the North Fork of the Salmon River south of Right Hand North Fork the greatest threat to the MCA is the timbered ridge that runs north from Mule Bridge Campground to Yellow Dog Peak. Both RERAP and FSpro show a very low probability of the fire breaching the MCA at this point. Another potential threat to the MCA is the northeast/southwest aligned timbered draw following Deadman Gulch (just west of Right Hand). The northern portion of the Uncles fire, in the vicinity of the lakes, poses the greatest threat to this area. RERAP shows a 35% probability of the fire reaching this portion of the MCA if no suppression actions are taken. Again, suppression actions taken on the north and east flanks of the Uncles Fire are substantially reducing the probability of fire movement to the northeast. If the fire reaches Trigger Point 3, additional management actions will be taken. Mitigation actions planned for Trigger Point 3 address initial response and resource needs to protect Lower Abbot's Ranch, 6 Mile Bridge within the MCA boundary.

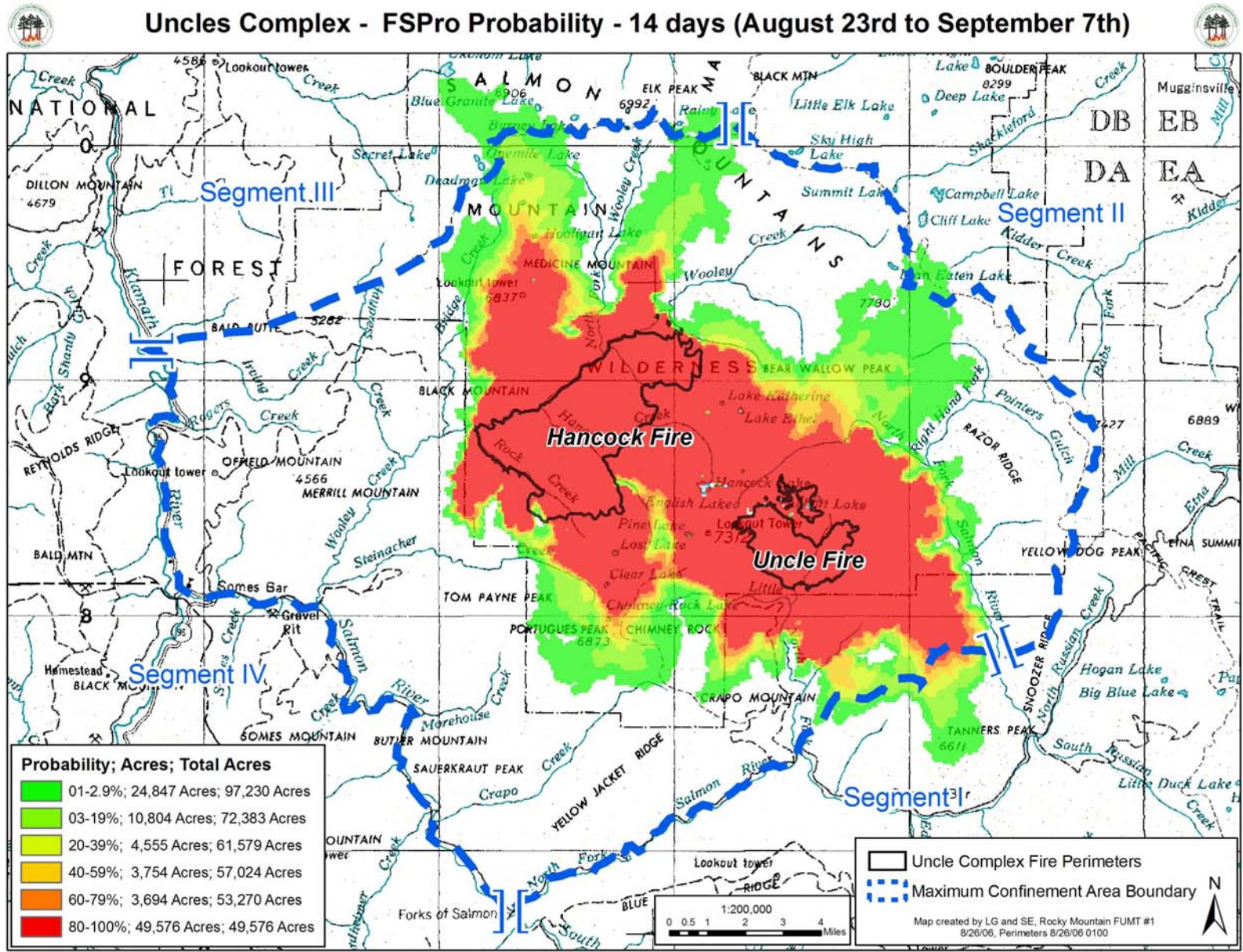
Segment III

South, southwest and southeast winds pose a threat of spreading the Hancock Fire north/northwest toward Segment III. FSpro results show the greatest potential for breaching the MCA in Segment III would occur if fire becomes established across Wooley Creek in either Canyon Creek or North Fork Wooley Creek, two drainages with a northeast/southwest alignment and heavy, continuous timber. If the fire crosses Wooley Creek on the southwest end of the Hancock Fire near Canyon Creek, analysis results indicate there is a relatively high probability (>40%) the fire will reach Medicine

Mountain if no suppression actions are taken. However, the probability of the fire actually reaching the MCA to the north is low (5%). If fire crosses Canyon Creek and gets established on Medicine Mountain, aggressive holding and burnout operations in Bridge Creek should be considered. Trigger Point 1 addresses initial response to and resource needs for holding fire south of Medicine Mountain and the MCA. Trigger Points 4 & 5 address initial response and resource needs to protect Fowler's Cabin and Wooley Camp. Though there is potential for substantial fire movement if the fire becomes established across Wooley Creek in North Fork Wooley Creek on the northeast end of the Hancock Fire, analyses indicate the probability of reaching the MCA to the northeast is relatively low (15%). Trigger Point 2 addresses initial responses to the resource needs for holding fire south of Wooley Creek.

Segment IV

East to northeast winds pose a threat to the MCA and structures along the Klamath River and Salmon River (Somes Bar to Forks of Salmon). FSpro and RERAP results both indicate there is a very low probability (<1%) of fire movement to the west and southwest. If the fire becomes active and moves significantly to the west or southwest, initiate structure protection according to the Salmon River Community Risk Assessment located in Appendix C. Trigger Points 4 & 5 address initial response and resource needs to protect Fowler's Cabin and Wooley Camp.



VI - Weather Narrative

The Uncles Complex, comprised of the Hancock, Uncles, and Rush fires, was initiated by lightning on July 23, 2006. Antecedent conditions included a roughly two week period of abnormally hot weather accompanied by low relative humidity. For instance, between July 16 and July 27, temperatures at Sawyers Bar RAWs station (elevation 2192 feet) exceeded 100 degrees Fahrenheit daily, achieving a maximum of 110 degrees on July 23. Minimum afternoon humidity at this station during this period frequently bottomed out in the middle teens or lower. Similar afternoon temperatures although slightly more humid conditions were also noted at a higher altitude station, Blue Ridge (elevation 5880 feet).

On July 28, a low pressure system moved across the area, bringing strong westerly winds to the fire. Blue Ridge recorded a maximum wind speed of 25 mph. A much cooler and seasonable air mass overspread the fire in the following days, bringing temperatures down 20 to 25 degrees, although afternoon relative humidity remained very low. A warming trend commenced during the beginning of August, although humidity steadily increased. This increase in moisture triggered thunderstorm development over the fire on August 7, with Sawyer's Bar and Blue Ridge receiving 0.32 inches and 0.44 inches, respectively.

Dry weather with temperatures near normal persisted through the much of the remainder of August. This period was generally defined by light, terrain driven winds and moderate to poor overnight humidity recovery. A weak offshore flow event peaked on August 18, with another weak event August 26. However, winds remained light during both episodes so resultant fire effects were minimal.

Looking forward, the unusually early pattern of frequent and vigorous (although primarily dry) disturbances moving across the Pacific Northwest looks to continue. This will produce periodic bouts of increased southwest winds affecting primarily the ridge tops. In the near term, such an event is likely Tuesday, August 29 and Wednesday, August 30. As this low pressure moves east, offshore northeast winds will likely bring several days of very low humidity and poor overnight humidity recovery through the first several days of September. Thereafter, high pressure is likely to build over the complex, resulting in a bias towards above normal temperatures and little if any precipitation through September 10. Data from NOAA's Climate Predictive Center support this pattern continuing through the remainder of the month of September, although a weakening trend away from warm temperatures in the northern Rockies suggests an increased likelihood of stronger offshore wind events across northern California. This development is quite typical climatologically.

Extended Weather Outlook

The weather pattern the last several weeks has featured an unusual tendency towards frequent and rather vigorous upper level disturbances moving across the Pacific Northwest and northern California. These disturbances initially bring periodic bouts of

increased southwest winds affecting the ridge tops of the Uncle Complex, with winds favoring west to northwest following the passage of the associated trough. Such a trough is likely to approach the complex late Tuesday, August 29 and pass east of the fire areas by sunrise Wednesday, August 30. Thus, an increase in southwest ridge winds is probable Tuesday afternoon, with gusty northwest ridge winds of 10 to 20 mph developing Tuesday night into early Wednesday. Winds will diminish Wednesday afternoon as the trough continues to retreat to the east. Mid-atmospheric moisture will be very limited with this trough, so the likelihood of dry thunderstorm activity is minimal near the complex, although an increase in surface relative humidity will precede the trough.

3 to 5 Day Outlook for Wednesday August 30 through Friday September 1

By Wednesday afternoon, the predominant wind direction will favor northwest to north with diminishing speeds. As surface high pressure settles into the northern Rockies Wednesday night, the wind flow will trend northeast, bringing lower afternoon humidity in the days to follow, along with poor overnight humidity recovery. At this time, it appears the combination of ridge top winds and lower overnight humidities Wednesday night and especially Thursday night over the fire may approach Red Flag criteria, although relatively weak and non-coincident flow aloft argues for a marginal event at best. Warmer temperatures can be expected through the period, with a slight increase in afternoon humidity during the day Friday as the offshore flow weakens.

6 to 14 Day Outlook for September 2 through September 10

Data garnered from NOAA's Climate Prediction Center support a moderate tendency (above 40% chance) for above normal temperatures through the period. This is augmented by a similar moderate tendency for below normal precipitation. Climatologically for the fire area, this would argue for little to no chance for wetting rain with a dominant upper level ridge pattern in place. This would represent somewhat of a departure from the relatively active frontal pattern displayed during August. However, with above normal temperatures also expected for the northern Rockies with similar probabilities for below normal precipitation there, the implication is for a low likelihood of significant wind events, offshore or otherwise, through the period for the Uncles Complex.

30 Day Outlook

NOAA data support a slight bias (between 33 and 40 percent) towards warmer than average temperatures accompanied by a moderate tendency (around 40 percent) for below normal precipitation for the Uncles Complex. Interestingly, these data also indicate a cooling trend towards normal temperatures across the northern Rockies. Such a development is consistent with improved chances for colder systems to infiltrate the northern tier of states, which often results in more significant offshore wind events for California. Given the transition into fall, this is climatologically to be expected. Thus,

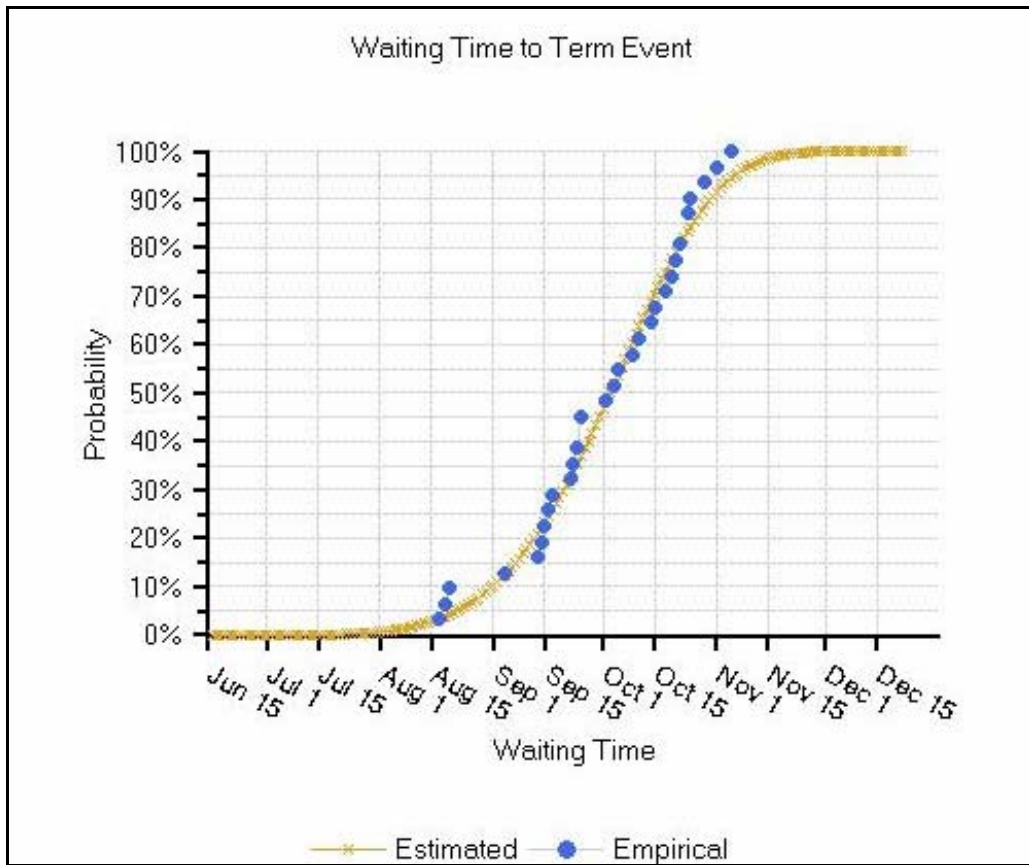
this may be a harbinger of potential significant northeast wind events, especially towards the latter half of September.

60 to 90 Day Outlook

The expectation is for little bias towards either above or below normal temperatures through this period, with a slight (between 33 and 40 percent chance) tendency towards below normal precipitation. Given a resurgence of above normal temperature probabilities throughout the Rocky Mountain states, this would favor a lower than average probability for strong offshore (northeast) wind events across the Uncles Complex. However, given a noted bias (above 40 percent) towards below normal precipitation across Oregon and Washington, it would appear that the typical progression of the storm track farther south may be delayed; thus, opportunities for northern California to experience a widespread, "season-ending" event may be limited and/or late in arriving.

Season Ending Events:

Fire seasons commonly end with a large scale rain event, but they can also end with the onset of shorter days and cooler/moister conditions. A useful indicator that is associated with seasonal fire potential is the energy release component (ERC). A fire analysis in Fire Family Plus was conducted using the Sawyers Bar RAWS (station ID 040222). The analysis indicated that fires over 100 acres occurred at ERCs generally greater than 50. Season ending events were defined where the ERC dropped below 50 for more than five days after September 1st. The Term program in the Rare Event Risk Assessment Process (RERAP) was used to determine the probability of the termination of the season for different dates. The results give a probability curve as shown on the next page.



Probability graph for season end based on Sawyers Bar RAWS dropping and remaining below an ERC of 50.

This graph shows the following:

- 30% probability of a season ending event by September 20th
- 40% probability of a season ending event by September 28th
- 50% probability of a season ending event by October 4th
- 60% probability of a season ending event by October 11th
- 80% probability of a season ending event by October 26th
- 90% probability of a season ending event by November 6th

Fire-Slowing Events

Along with season ending events, there is a possibility of fire-slowing precipitation events prior to the end of the fire season. Precipitation of at least 0.25 inches in a day might be expected to at least slow fire spread for two or three days, while greater amounts of rain (over 0.5 inches) could slow or check fire spread for several days. The probabilities of receiving greater than 0.25 inches of rain in one day were derived using Sawyers Bar weather station precipitation data due to its proximity to the fire area.

Based on historical weather records, it is most likely that precipitation will occur in late September as that is the time period when cold frontal passages are most common.

| Sawyers Bar RAWS | Total Number of Days Receiving >0.25 inches of Rain 1971-2005 SAWYERS BAR RAWS |
|-----------------------------|--|
| Late August | 10 |
| Early September | 9 |
| Late September | 37 |
| Early October | 18 |
| Late October | 30 |

For more detailed information regarding weather and season severity see Appendix A.

VII – Fire Behavior (Observed and Predicted)

Observed Fire Behavior Summary and Discussion

Fire behavior has been significantly influenced by the fuels and topography. Currently fire growth has been slowed in the drainage bottoms (Hancock, Wooley, Rock, and Uncles Creek) by the influences of the relatively high moisture content (>100%) in the heavy shrub and tanoak component. Fire spread via low to moderate backing and flanking activity is the norm. Where 1000 hour fuels are driest (west and south aspects) and on exposed slopes spotting and isolated uphill crown fire runs have occurred in areas with heavier fuels and canopy. Upper level winds have been light and variable and generally have had little influence on fire behavior when less than 10 MPH. Minimum RH has typically ranged from 15-20% with maximum temperatures in the 90's. Generally, the fires become active when the inversion breaks, after 1300, and have also been burning in the evening and early morning hours when relative humidity recovery is poor. On average the fires have been burning activity and gaining acres in a 3-5 hour period between 1500 and 1800 daily.

The **Hancock Fire** is approximately 8,000 acres and continues to burn in shrub and timber fuel models (mixed conifer stands and shrub fields with moderate to heavy loads of downed woody fuels (see map in Fire Behavior Appendix); in very steep terrain, at between 2000' and 6000' elevation along the south side of Wooley Creek between Big Meadows and Rock Creek. This area was burned in the 1950's, 1987, and 1999. The fire has been backing and flanking though all fuel models with occasional torching in the timber. Ignitions from roll out occasionally make small upslope stand replacement runs on the upper 1/3 of the slope. Flame lengths range from 1 foot backing, 1-4 feet flanking, and >5 feet on upslope runs with short range spotting in Big Meadows, Hell Hole, Hancock, and Rock Creek drainages. The fire is most active at the headwaters of these drainages where slopes are exposed.

The Hancock Fire has burned 250-300 acres per day, mostly to the east/southeast in the head of Rock and Hancock Creeks, and also toward the west/north in Hell Hole and Big Meadow Creek (see Observed Fire Growth Table in Appendix A and Progression

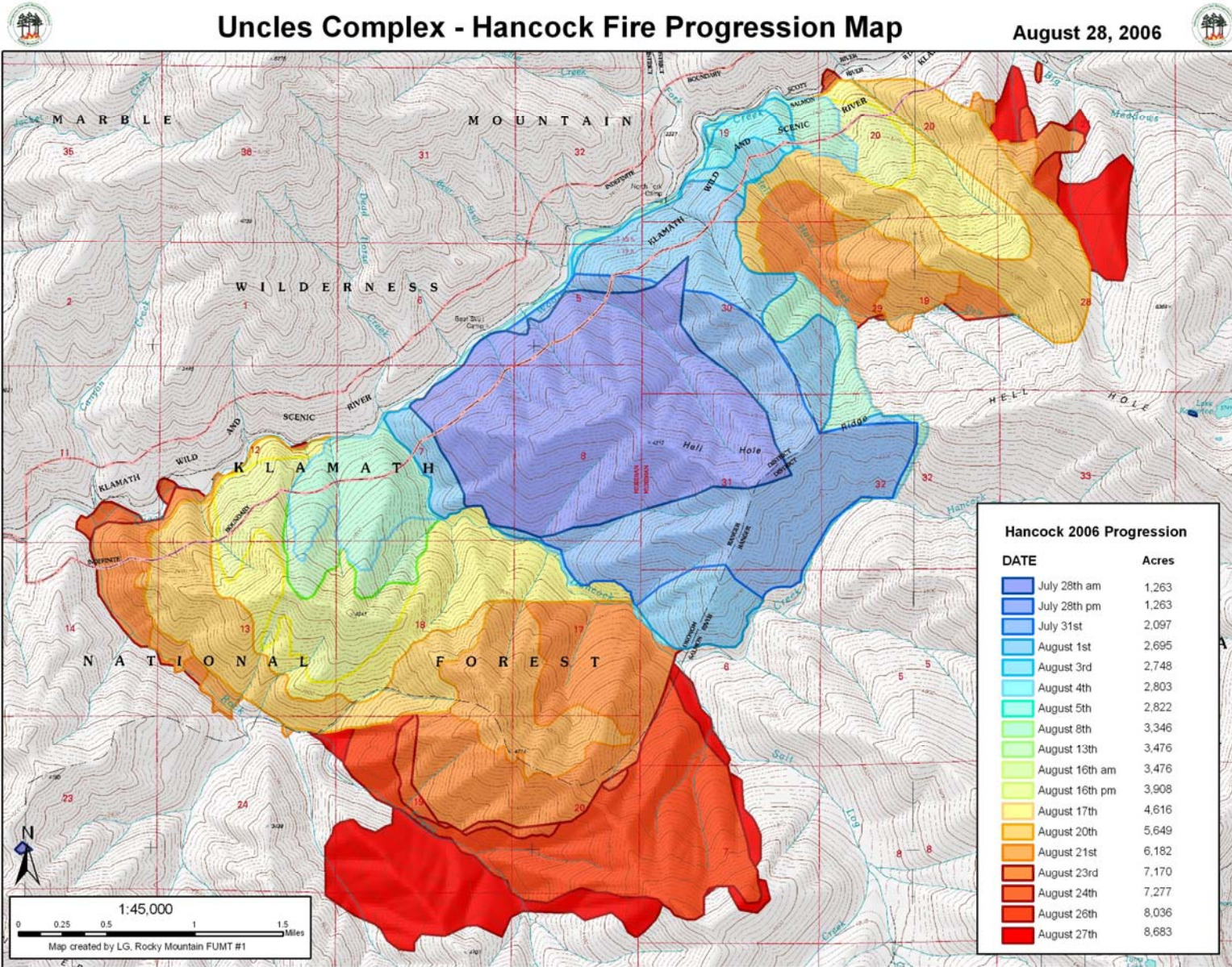
map below). The fire will become more active if it becomes established across Wooley Creek, Rock Creek and/or Big Meadow Creek and as live fuels continue to dry and warm weather persists across the region.



Hancock Fire-Head of Rock Creek 8/25



Hancock Fire-8/22



The **Uncles Fire** is approximately 2,700 acres, located approximately 1 mile east of English peak. It continues to smolder and creep at 3600 – 6500 feet elevation, mainly in timber patches in the vicinity of Abbott Lake and in Uncles and Right Hand Uncles Creek. The fire burned mostly in mixed conifer stands that have no recent fire history. Fire growth was slowed by the Specimen Fire (1994) located along the eastern fire perimeter. High fuel moistures in the creek bottoms, suppression actions, and sparse, discontinuous fuels in the vicinity of the lakes have significantly slowed fire spread.

The fire has grown on average between 50-100 acres per day (see Observed Fire Growth Table in Appendix A and progression map below). Spread is primarily towards the east and north as a backing and flanking fire, with average rates of spread of 1-3 chains/hour and flame lengths 1-3 feet backing and 2-4 feet flanking and upslope. When active the fire made several uphill crown runs on the west aspects approximately 1 mile from Abbott and Lake of the Islands and spotted on 7/28 in the isolated timber patches in the vicinity of the lakes. As of 8/26, the fire was no longer active or growing except in the vicinity of the lakes and movement to the northeast towards Deadman Gulch.



Uncles Fire-Right Hand Uncles Creek

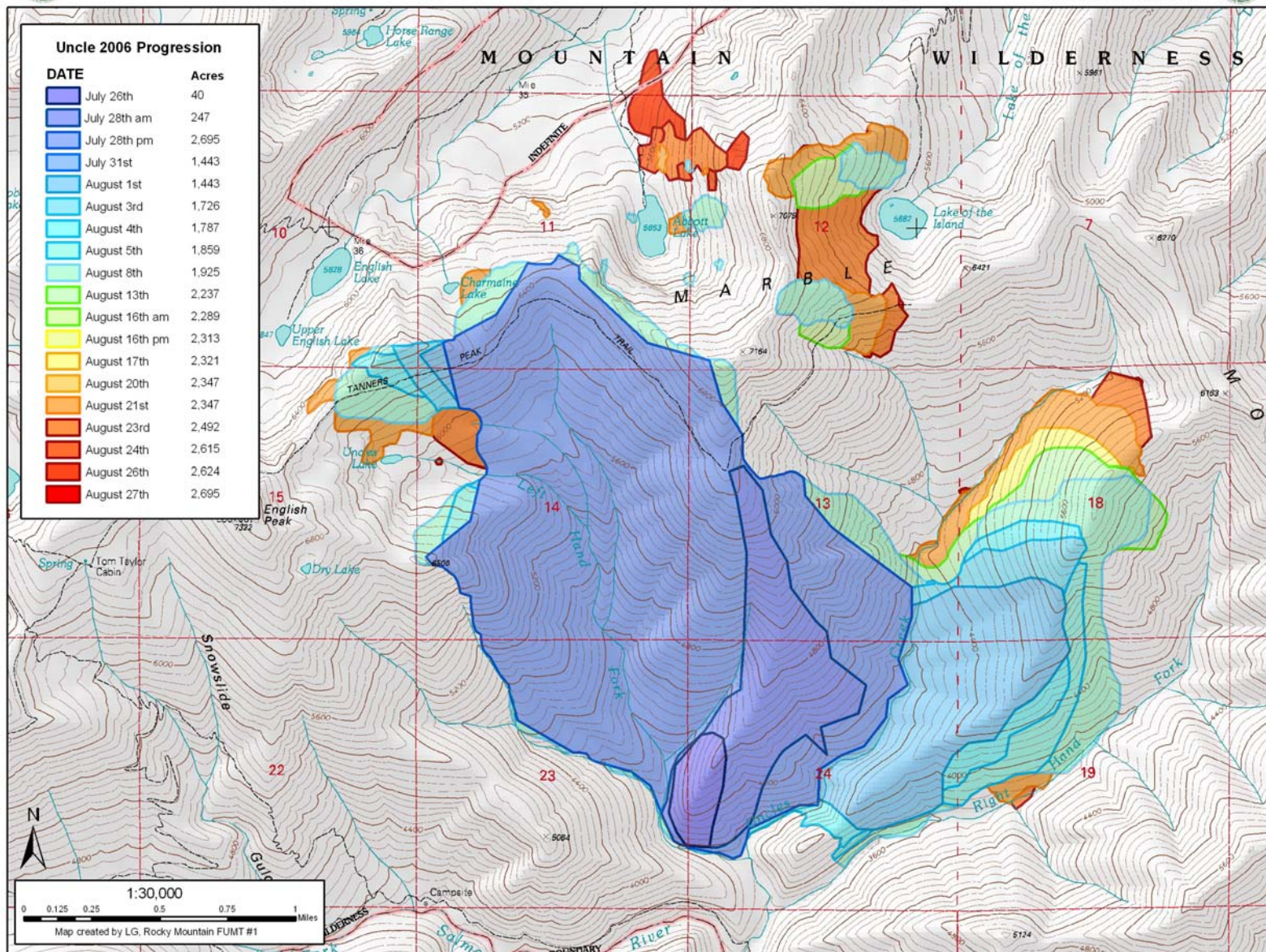


Uncles Fire-Spot near Abbott Lake-8/25



Uncles Complex - Uncle Fire Progression Map

August 28, 2006



Predicted Fire Growth

If conditions remain the same, expect the Hancock fire to reach 12,000 acres by Sept 8th. The fire should continue to grow to the southeast, and east towards the Uncles fire and the lakes, as well as move south and southeast across Rock Creek toward Steinacher Ridge. Also, expect the fire to continue growing to the east/southeast in the headwaters of Hell Hole and the un-named drainage. To the north, expect the fire to cross Big Meadow Creek but stall out before reaching the South Fork of Wooley Creek. Given suppression actions taken along Wooley Creek, expect the fire to hold along Wooley Creek. If the fire does cross Wooley Creek however, the fire has potential to increase in activity if established in the SW/NE oriented and aligned drainages of Canyon Creek (in the vicinity of Fowler Cabin), and North Fork Wooley (near the confluence of Big Meadow Creek and Wooley on the northeast end of the fire).

If conditions remain the same, expect the Uncles Fire to reach 3,000 acres by September 8th. The fire should continue to grow slowly around the lakes toward the north and east. Suppression actions have generally slowed and/or stopped fire growth in other directions.

Fire Spread Probability (FSPRO)

The Rare Event Risk Assessment Process is typically used to determine the likelihood of a fire spreading to a point of interest or concern before a season-ending or fire-ending event. Because it is not likely that either of those will occur within the next three months, this process may not provide all of the information fire managers need to make decisions in the short term on this wildland fire use event.

A new tool just being developed for wildland fire decision support is Fire Spread Probability (FSpro). The Missoula Fire Lab is developing and testing this experimental program that is designed to estimate the likely paths of fire spread from a point or polygon and the probability of this spread occurring in a given time period based on fuels, topography, and historical weather and wind data. In the FSpro analysis, thousands of scenarios are generated based on historical probabilities of daily fuel moistures and ERCs as well as hourly winds for a given time period. Fire spread is then projected for that time period under each of these thousands of weather/wind scenarios to determine the probability of the fire spreading across the landscape.

The Hancock and Uncles Fire were analyzed together in a 14 day probability analysis (August 23rd-Sept 7th). Model results showed an 80 percent probability of the Uncles Complex reaching 50,000 acres in size. Though FSpro results show a high probability of the fire breaching the MCA to the southeast, it is not likely as FSpro results assume no suppression actions and an active perimeter. Suppression actions have been taken on the south and east flanks which has substantially reduced the probability.

| Fire Spread Probability (FSpro) RESULTS | |
|--|---------------------|
| 80% | 50,000 acres |
| 60% | 53,000 acres |
| 40% | 57,000 acres |
| 20% | 62,000 acres |
| <20% | 72,000 acres |

The map with results is displayed in Section XX, Threats to MCA. This information was modeled by utilizing the historical weather data from the Sawyers Bar and the Blue Ridge RAWS. The results of the 14 day FSPRO which was calculated for the Hancock and Uncles fires showed a significant increase in the overall acreage and in fact the two fires growing together. The fires are predicted to increase in generally all directions with minimal spread to the west. The probability of fire spreading to each area on the map based on the current perimeter within the given time period is displayed by the different colored bands. Beginning with a >90% probability of spreading to the areas within the innermost red contour in the 14-day period, each successive contour of color represents decreasing probability of fire spread. The outermost green contour indicates there is less than a 0.5% probability of the fire spreading to those areas within the given time period based on the historical weather and fuel model data used in the analysis. It also indicates that the weather parameters that could cause fire spread to those areas has happened at least once in the historical record.

Summary of Expected Fire Behavior

- If the dry weather pattern continues, expect the shrub species to become more available for burning as live fuel moisture decline. Expect increased intensity, spread rates and daily growth for the next month, especially on the south aspects.
- Sustained winds of >10 mph were a primary factor for fire spread on both the Uncles and Hancock Fires during the periods of large fire growth. As canyons align with winds stronger than 10 mph, the fire behavior should be expected to increase significantly.
- Expect the Hancock Fire to continue to move south and southeast within and across Rock Creek and towards Steinacher Ridge. Also expect fire continue to move east and northeast in Hancock, Hell Hole and Big Meadows Creek. Ignitions from rollout will continue to be the primary method for fire growth in steep terrain. A westerly or SW wind event could move the fire significantly up drainage where it could make runs toward the Uncles fire area.
- Expect the Uncles Fire not to increase in size significantly in the next week unless a wind event occurs. Fire activity is currently limited to the head of Uncles Creek and Abbott Lake and movement to the northeast towards Deadman Gulch.

VIII – Long Term Risk Assessment and Maps

The Rare Event Risk Assessment Process (RERAP) was used to calculate fire movement and the probability of various fires reaching identified Trigger Areas, Trigger Points, and Points of Concern. RERAP inputs for active burn hours, daily spread rates, and rare event spread were calibrated using actual observations. Results assume an average daily common spread of 3-14 chains per day. A rare event spread is defined as daily spread of up to 5 miles per day. Line descriptions and RERAP results can be found in the tables/maps below for each fire assessed.

The RERAP analysis uses the following assumptions:

- 1) Suppression actions would not be taken on the fires assessed
- 2) Fire is active at the point of line origin
- 3) The Sawyers Bar RAWS adequately represents conditions in the areas where the fire is burning
- 4) Local fuel model layers and fire history maps provided by the forest are generally accurate
- 5) Local knowledge and observed fire behavior would improve calculated results
- 6) If observed fire behavior or fire weather changes significantly from observed and fire movement changes, recalculation of probabilities will occur

The data used to complete the analysis includes:

- 1) Fuels Data provided by the Region. New 40 Fuel Models were used.
- 2) Fire History Data
- 3) Aspect and Slope layers created from DEMs
- 4) 1971-2005 weather observations from Sawyers Bar weather station
- 5) Rate of spread values calibrated to approximate observed fire growth from 7/28 to 8/25.

SUMMARY OF RERAP ANALYSIS LINES AND RESULTS

Hancock Fire

RERAP results are displayed in the table below. Assuming no suppression actions are taken, RERAP shows that it is most likely (45-50%) that the **Hancock Fire** will reach Trigger Point 2 (northeast of current fire) and Trigger Point 5 (Steinacher Ridge) before season end with the greatest likelihood occurring in early September.

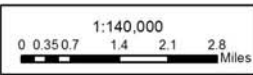
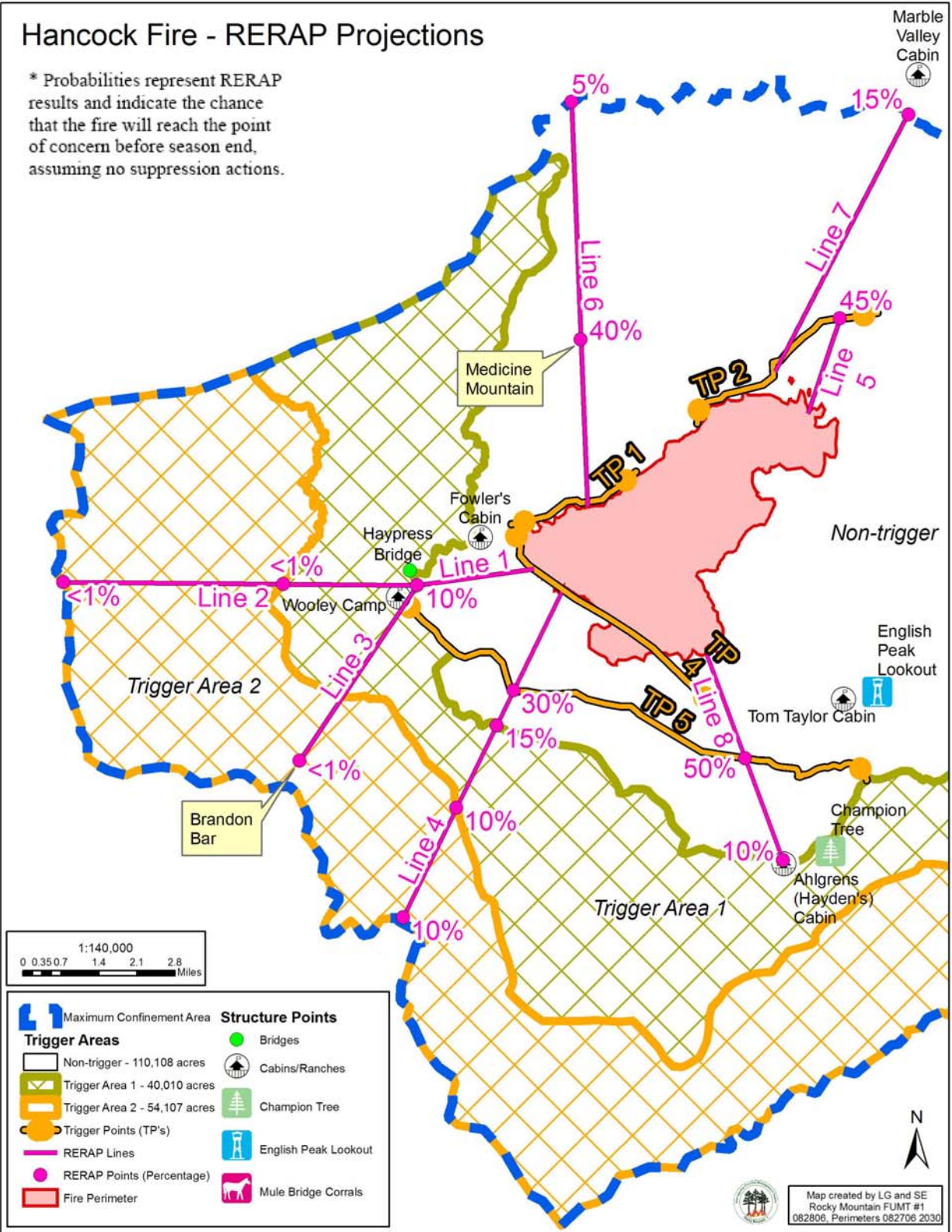
Additionally, if the fire crosses Wooley Creek to the north, it is somewhat likely (40%) the fire will reach Medicine Mountain if no suppression actions are taken.

Based on historical weather data and observed fire behavior, it is less likely (<15%) that the fire will reach the MCA boundary to the southwest, west, north or northeast.

| Hancock Fire | | | | |
|--|---|--------------------------|---|---|
| Assessment Point | Line Segment | Distance of Line | Time Period with highest probability | Probability by Season End (November) |
| POINTS OF CONCERN -WEST | | | | |
| Wooley Camp and Trigger Area 1 | Line 1-West to Wooley Camp | 120 chains; 1.5 miles | Early Sept | 10% |
| Trigger Area 2 | Line 2-West from Wooley Creek | | None | <1% |
| Management Confinement Area (MCA) Boundary WEST | Line 2-If fire crosses Wooley Creek, to WFSA boundary WEST | 526 chains; 6.5 miles | None | <1% |
| POINTS OF CONCERN-SOUTHWEST | | | | |
| Trigger Point 5 Steinacher Ridge | Line4-SW to Steinacher ridge from Rock Creek | 113chains; 1.4 miles | Early Sept | 30% |
| Trigger Area 1 | Line 4-SW from Rock Creek | 226 chains; 2.8 miles | Early Sept | 15% |
| Trigger Area 2 | Line 4-SW from Rock Creek | 314 chains; 4 miles | Early Sept | 10% |
| MCA Boundary SW | Line 4-SW from Rock Creek | 396 chains; 5 miles | Early Sept | 10% |
| Brannon Bar and MCA SW | Line3-If fire reaches Wooley Camp, SW along Wooley Creek | 203 chains; 2.5 miles | None | <1% |
| POINTS OF CONCERN-NORTH and NORTHEAST | | | | |
| Medicine Mountain | Line 6-North if fire crosses Wooley Creek north up canyon creek to medicine mountain. | 250 chains; 3.0 miles | Late Sept | 40% |
| MCA Boundary North | Line 6-North if fire crosses wooley creek past Medicine Mnt to WFSA Boundary N | 609 chains; 7.6 miles | Late Sept | 5% |
| Trigger Point 2 | Line 5-NE from Big Meadow Creek | 114 chains; 1.4 miles | Early Sept | 45% |
| MCA Boundary NE | Line 7-If fire crosses Wooley Creek at Big Meadow, NE following North Fork Wooley Creek | 267 chains; 3.3 miles | Late Sept | 15% |
| POINTS OF CONCERN-SOUTHEAST | | | | |
| Trigger Point 5 | Line 8-SE following Salt Log Creek | 184 chains; 2.3 miles | Early Sept | 50% |
| Hayden's Cabin | Line 8-SE past TA1 | 368 chains; 4.6 miles | Early Sept | 10% |

Hancock Fire - RERAP Projections

* Probabilities represent RERAP results and indicate the chance that the fire will reach the point of concern before season end, assuming no suppression actions.



| Trigger Areas | | Structure Points | |
|---------------|-------------------------------|------------------|----------------------|
| | Non-trigger - 110,108 acres | | Bridges |
| | Trigger Area 1 - 40,010 acres | | Cabins/Ranches |
| | Trigger Area 2 - 54,107 acres | | Champion Tree |
| | Trigger Points (TP's) | | English Peak Lookout |
| | RERAP Lines | | Mule Bridge Corrals |
| | RERAP Points (Percentage) | | |
| | Fire Perimeter | | |

Map created by LG and SE
Rocky Mountain FUMT #1
082806_Perimeters.082708.2030

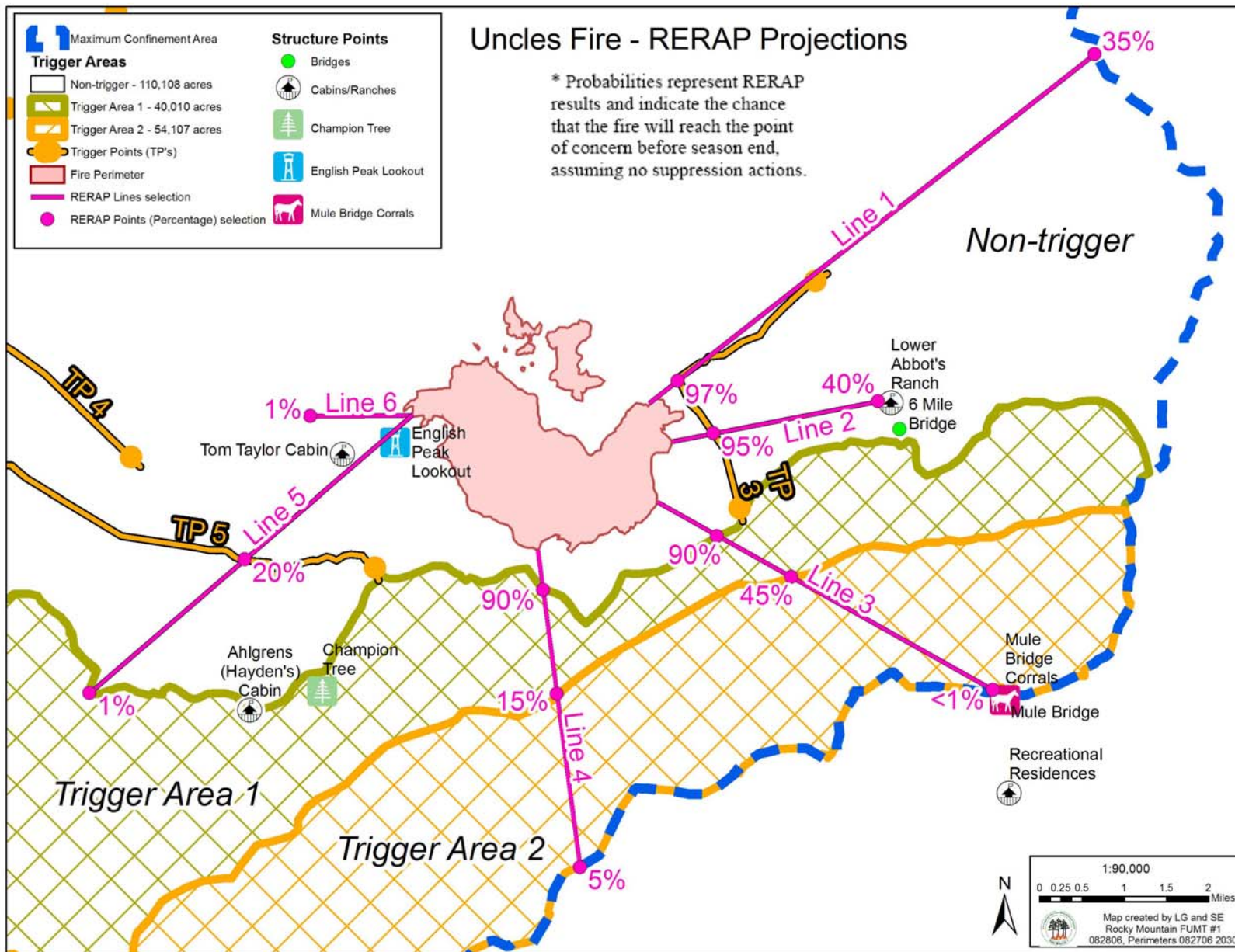
SUMMARY OF RERAP ANALYSIS LINES AND RESULTS

Uncles Fire

RERAP results are displayed in the table below. Assuming no suppression actions are taken, RERAP shows that it is most likely that the **Uncles Fire** will reach Trigger Point 3 (95%) to the east and Trigger Area 1 (90%) to the south and southeast. Additionally, it is somewhat likely (40%) that the fire will reach Abbott’s Ranch and the North Fork of the Salmon River to the east. Furthermore, there is a 35% chance the fire will reach the MCA boundary to the northeast if no suppression actions are taken. However, since suppression actions are being taken on the northern and eastern flanks of the Uncles Fire, these probabilities have been greatly reduced.

Based on historical weather data and observed fire behavior, it is not likely (<5%) that the fire will reach the MCA boundary to the southwest, south or southeast (Mule Bridge).

| Uncles Fire | | | | |
|---|--|--------------------------|---|---|
| Assessment Point | Line Segment | Distance of Line | Time Period with highest probability | Probability by Season End (November) |
| <i>POINTS OF CONCERN-EAST and NORTHEAST</i> | | | | |
| Trigger Point 3 | Line 2-East from the Right Hand Creek of Uncles | 33 chains; 0.4 miles | Late Sept | 95% |
| Abbott’s Cabin | Line 2-East from the fire’s edge down Wall Creek drainage to Middle Fork | 203 chains; 2.5 miles | Late Sept | 40% |
| MCA Boundary to NE | Line 1-Northeast through Deadman Gulch | 502 chains; 6.2 miles | Early Sept | 35% |
| <i>POINTS OF CONCERN-SOUTHEAST and SOUTH</i> | | | | |
| Trigger Area 1 | Line 3-Southeast to ridgetop | 67 chains; 0.8 miles | Late Sept | 90% |
| Trigger Area 2 | Line 3-Southeast | 126 chains; 1.6 miles | Late Sept | 45% |
| Mule Bridge and MCA SE | Line 3-Southeast | 393 chains; 5 miles | None | <1% |
| Trigger Area 1 | Line 4-South | 33 chains; 0.4 miles | Late Sept | 90% |
| Trigger Area 2 | Line 4-South | 87 chains; 1.0 miles | Late Sept | 15% |
| <i>POINTS OF CONCERN-SOUTHWEST AND WEST</i> | | | | |
| Hayden’s Cabin and Trigger Area 1 | Line 5- Southwest | 354 chains; 4.4 miles | None | <1% |
| Tom Taylor’s Cabin | Line 6-West | 98 chains; 1.2 miles | None | <1% |



IX - Threats to Firefighter and Public Safety

Firefighter Safety

Threat

All of the hazards that are common to the wildland fire environment exist on the Uncles Complex. Some hazards that exist include:

Federal, state and other firefighters must keep informed on current fire activity and monitor the thresholds as the local Pocket Cards indicate as well as trends in the fuel moistures within and adjacent to the fire areas.

Steep, rugged terrain, snags, rolling rocks, rolling debris, shallow rooted old growth timber and dense forest canopy which limits one's ability to view the fire, smoke, bears, snakes, spiders, rough skinned newts, inversions, extreme fire behavior, communications, thunderstorms, fatigue, and helicopter operations.

Aviation operations pose risks when undertaking low-level flights in steep mountainous terrain, high density altitudes, and long line delivery of logistical support needs and/or water bucket drops. Air operations are mission oriented and used for planning, tactical operations and bucket work.

Fire personnel will use the Risk Management Process on page 1 in the Incident Response Pocket Guide as well as implement the appropriate tools recommended by this process prior to advancing in any monitoring or tactical activities.

Mitigation

The risk of the adverse affects to firefighters presented by these hazards can be mitigated by following standard safety protocols which include the 10 Standard Fire Fighting Orders and 18 Situations that Shout Watch Out. These can be found in agency guides that include the Incident Pocket Response Guide, Health and Safety Code, Fireline Handbook, Thirty Mile Fire Mitigation Guide, Klamath National Forest Fire Management Plans, Klamath NF Aviation Plan, Interagency Standards for Fire and Fire Aviation Operations (Red Book) and other supporting documents.

Ensure that Lookout, Communications, Escape Routes, and Safety Zones are in place prior to engaging in all operations. Assess and limit firefighter exposure to rolling material and steep terrain. Provide current and expected weather forecast and current and expected Fire Behavior predictions to all personnel on a daily basis.

Follow policy provided in the Interagency Helicopter Operations Guide (IHOG) for all air operations. If needed, establish and adhere to temporary flight restrictions (TFR) and all notice to airmen (NOTAM) for local and/or adjacent incidents. Conduct daily briefing with all pilots and relief pilots prior to initiating daily operations.

Public Use and Safety

Within and adjacent to the boundary of the MCA the following safety concerns must be considered. These are listed below along with mitigation measures:

Structures, such as residences, historic cabins, lookouts, pack-trail and forest road bridges, and campground/trailhead improvements are present throughout the complex and are listed in “**Values at Risk Table**” in Chapter III of this document. This table addresses the mitigation measures, and safety considerations to be followed during implementation.

Threat

Rapid fire spread can pose risks (entrapment) to hikers, hunters, outfitters, ranchers, and other Forest users in the area that may lead to injury and/or fatalities. Fire-weakened trees after fire passage can fail, blocking trails, striking people, stock, and or dispersed recreation areas causing injury and/or fatalities. Rolling rocks and/or debris can be dislodged, falling down slope in post-fire areas and pose a threat to public safety. Dense smoke, ash, and ember fallout can affect health and personal property of visitors.

Mitigation

Evaluate and determine which access points, areas and trails need to be closed, as appropriate, to minimize potential for fire related threats to life and property. Keep hikers, hunters, outfitters, ranchers, surrounding communities and forest users informed on current and expected fire conditions. Make direct contact and or post fire information at trailheads, campgrounds, Ranger District Offices, Public buildings and local businesses. Monitor recreation and camping areas, as appropriate, so that visitors can be contacted quickly if fire conditions change. Maintain an active Public Information program.

Smoke Management

Threat

The general air quality in Siskiyou County is rated ‘good’ throughout the year with very few days with an air quality index in the moderate category and only one day in the past 10 years of unhealthy air quality for sensitive people. The county monitors ozone and particulate matter of 10 microns and smaller (PM10). Ozone is generally the major pollutant throughout the year. Particulate matter is the major pollutant primarily during the winter, suggesting that heating with wood stoves and furnaces during periods of stagnant air causes localized problems. The main exception was 2002, where PM10 was the primary pollutant for several days in July and August. Most likely, these days, along with high 24-hour concentrations were the result of drift smoke from several large fires and fire complexes in southwest and south-

central Oregon. In 1999, the latest year for which data is available, Siskiyou County emitted an estimated 15,147 tons of PM₁₀ and 8,217 tons of PM_{2.5}. Only two industrial PM₁₀ and PM_{2.5} emitters were located in the county – the Stone Forest Industries sawmill in Happy Camp and the Roseburg Forest Products plywood plant in Weed. Collectively, these two industrial sources emitted only 122 tons of PM₁₀ and 97 tons of PM_{2.5}.

Nearby Class I areas include the Marble Mountains Wilderness (25 miles to the northwest), and Redwood National Park (approximately 50 miles west of the fire) along the California coast. The Medford-Ashland corridor is a particulate matter maintenance area located approximately 125 miles north of the fire area.

Threat

The primary air quality threat is to firefighter health and safety on the fireline and public health in the surrounding communities. Strong, persistent inversions are typical of this area through the fall, trapping smoke at or near the surface. During the 1987 fire season, the number and size of fires, coupled with the strong inversion, created very unhealthy conditions for several weeks. While that level of activity is currently not present, dense smoke can affect firefighter and public health with prolonged exposure and firefighter safety as it affects air operations that support ground operations and medical evacuations via aircraft.

According to the National Climate Data Center, local inversions will form if the following criteria are met at least 50% of the time between 1800 and 0600 local time: Wind speed < 7 mph (< 3 m/s), total cloud cover < 80% of the total sky and opaque cloud cover < 60% of the total sky; or

Wind speed > 6 mph but < 11 mph (> 3 m/s and < 5 m/s), total cloud cover < 60% and opaque cloud cover < 30%; or

Fog reported at any hour between 1800 and 0600 local time.

Strong inversions commonly form in this part of Siskiyou County in late summer and fall, often not lifting out until near noon or mid-afternoon. Strong winds at higher elevations that do not mix down can also keep smoke trapped in drainage and valley bottoms for much or all of the day.

Mitigation

No smoke modeling has been done for this fire. If the fire persists and it appears likely that smoke will become an issue, it is recommended that the following actions be considered:

- Fire Monitors are making and recording hourly smoke behavior observations during daylight hours.
- Request smoke dispersion as part of the spot forecast request.
- Track inversion risks using the criteria above and overnight weather from the appropriate RAWS.

- Track smoke pathways via 1 km visible satellite imagery from either Medford or Eureka.

X - Management and Resource Concerns

The main management and resource concern is the protection of Wilderness values within the Marble Mountain Wilderness and natural resource objectives outside of wilderness while allowing the fires within the complex to play their natural role on the landscape. Specific resource concerns include:

- Smoke management
- Protection of Threatened, Endangered and Sensitive Species
- Protection of soil, water, heritage, recreation, range and scenic resources
- Minimize high-intensity burned acreage in highly scenic areas and old growth stands
- Be sensitive to Native American cultural concerns
- Give preference to the use of water or foam as a suppressant; avoid the use of retardant in drainage areas or near lakes and streams.

XI - Monitoring Actions

- Monitoring is important to document fire weather, fire behavior, smoke dispersal and volume, and to validate fire behavior predictions. Monitoring variables that are important include: smoke dispersal, live and dead fuel moistures, daily weather observations, mapping fire perimeter and progression, and observed fire behavior.
- An After Action Review (AAR) should be conducted between the district(s)/forest(s) and management teams on the incident to discuss incident actions to date.
- Fire Personnel will use the Risk Management Process on page 1 in the Incident Response Pocket Guide as well as implement the appropriate tools recommended by this process prior to engaging in any monitoring or tactical activities.
- Monitoring locations will depend upon the fire activity of individual fires and threats from that fire. Monitoring frequency will be based on fire activity and location.
- Weather observations will be taken daily by fire personnel. Portable Remote Automated Weather Stations could be used to obtain more site-specific information.
- Fine dead fuel moisture contents will be evaluated on a daily basis.
- Fire behavior and daily fire growth will be observed from aerial reconnaissance and by ground personnel. On-the-ground monitoring will provide more specific information and increase in use as the fire becomes more active.
- Mapping of fires to obtain current size, daily growth, and proximity to boundaries and other threats will be conducted by aerial reconnaissance and on-the-ground fire personnel. Aerial recon for GPS needs will only be conducted on an as needed basis. Data will be relayed to the FUMA for map production and documentation.
- Monitoring fire effects on the burned area to determine whether the plant

succession is favorable will be the responsibility of the local District.

- Both current and predicted ERCs at the Teapot and Ski Hill RAWs should be monitored daily. ERCs below the 90th percentile are one factor to consider transitioning to a smaller organization.
- Since live fuel moisture has been a major factor in moderating the fire behavior up to this point they should be monitored on a weekly basis. If the higher elevation live woody moistures should drop below 100% fire behavior at higher elevations will increase.
- Ensure that equipment and supplies associated with fire management activities are removed when they are no longer needed.

The resources needed to accomplish the monitoring could be done with aerial recon if accessibility is an issue.

XII - Holding and Mitigation Actions

Mitigation actions are initiated when the fire reaches Trigger Points (TPs) and/or Trigger Areas (TAs). These triggers and the specific mitigation actions are identified in the **“Trigger Points and Trigger Areas”** Chapter IV of this document. More specifically, the actions associated with protection of the structures are identified in the **“Values at Risk Table”** in Section III of this document.

XIII - Resources Needed

Refer to Chapter IV **“Trigger Points and Trigger Areas”**

XIV - Contingency Actions

The actions described in this plan are designed to maintain the Uncles Complex within the boundary of the Maximum Confinement Area (MCA). The mitigation actions described as part of the Trigger Points (TPs) and Trigger Areas (TAs) are a series of steps that would be taken to keep the fire within the MCA. As with all wildland fires, there is a degree of uncertainty that exists based on the probability that unforeseen weather and environmental factors will occur. Should the planned mitigation actions not be implemented or be unsuccessful in containing the fire to identified holding locations, the option exists to back off and defend the MCA boundary. If the fire breaches the MCA, there is a 48 hour period in which to bring the fire back into confinement. If actions are not achieved within this timeframe a new WFSAs would be developed and an Appropriate Management Response would be selected. These actions may require additional resources.

XV – Estimated Costs of Long Term Actions

Cost projections for the Long Range Implementation Plan were based on I-Suite cost estimates using the "Kind Code" and the rate table in the COST module. They are based on existing resources and planned resources for the operational needs of each Trigger Point and/or Trigger Area. Some of the Trigger Points would require similar resources, so they were combined into a single projection. Existing resources included in each projection include the overhead typically staffed with an IMT or an FUMT, plus aviation and logistical support. The additional resources identified by each Trigger Point or Trigger Area are identified at the bottom of each spreadsheet.

| Summary of Costs by Trigger Points | |
|---|----------------|
| T.P. 1 | \$1,159,488.00 |
| T.P. 2 S1 | \$1,198,140.00 |
| T.P. 2 S2 | \$1,056,440.00 |
| T.P. 3 S1 | \$371,704.00 |
| T.P.3 S2 | \$388,504.00 |
| T.P. 4 | \$1,345,944.00 |
| T.P. 5 | \$897,296.00 |

XVI - Smoke Management

Manage smoke consistent with the air quality standards established by the California Air Resources Board, Siskiyou County Air Pollution Control District in California or by the Oregon Department of Environmental Quality in Oregon.

Smoke Dispersion and Effects

The heaviest smoke from the fires is in the drainages near the fire's perimeter, where fire personnel are working.

In the Scott Valley (Ft. Jones to Callahan) smoke concentrations from these fires have at times been far above the threshold for impacts on the health of otherwise well people. There is no indication that periodic heavy intrusions will not continue. Other areas that are likely to have smoke impacts to varying extents are along the Salmon River, North Fork of Salmon River, Sawyers Bar Road, Klamath River, and the Interstate 5 corridor (Yreka to Redding).

The Uncles Complex is within the Marble Mountain Wilderness Class I Airshed. Scenic visibility is impaired. For visibility impacts, the primary response should be to inform and interpret for people who are interested.

Recommendations for Smoke Management

In general, it may be helpful to maintain a clear division of responsibilities with the, Siskiyou County Air Pollution Control District. The Forest and fire managers know more than other people do about smoke generation, which they can provide to others. Public health professionals know more than other people do about how communities can prevent and respond to shared health challenges. Health departments can provide that information.

It would be optimal to work in a partnership that incorporated the differences. It isn't always feasible, however. Many community-level public health officials have either never dealt with very heavy smoke, or have not responded aggressively. Because fire managers have been around the issues many times, they have information useful to health departments. And at times people surrounded by smoke need information fire managers have, and it should be shared even if the fire organization is not the optimal source.

- Continue to advise people in the area of ways they can minimize smoke impacts to their own and their families' health. If possible, offer the information via public health departments.
- Encourage and support the County in making information about smoke and health available to residents and healthcare providers. The information could include:
 - Location of public facilities with filtered air conditioning that residents can use as a respite haven of clean air. Buildings might include movie theaters, department stores, libraries, large meeting rooms in government buildings, or indoor sports facilities.
 - Remain in communication with school administrators about the advisability of providing recess and school athletics when smoke is heaviest.
 - Incident Meteorologist input to a County-issued daily smoke health impact forecast.
- Continue providing information about the fire's likely growth and smoke production for Forest managers to use in their on-going communications with state and local smoke regulators.
- For firefighters, unless the smoke abates significantly, continue to rotate people out of spike locations frequently, simply because of smoke exposure.

Monitoring

No smoke modeling has been done for this fire. If the fire persists and it appears likely that smoke will become an issue, it is recommended that the following actions be considered:

- Fire Monitors are making and recording hourly smoke behavior observations during daylight hours.

- Request smoke dispersion as part of the spot forecast request.
- Track inversion risks using the criteria above and overnight weather from the appropriate RAWS.
- Track smoke pathways via 1 km visible satellite imagery from either Medford or Eureka.

XVII - Information Plan

Objectives

- Give people information about the topics they want and at the level of detail they want.
- Prevent surprises that could be caused by the potential for big fire and heavy suppression.
- Foster as much patience as we can for long-duration smoke.
- Strengthen understanding of and support for the forest's fire management program.

Communication Tools

- The most effective tool to date for routine news has been electronic communication, both email and internet.
- A trapline is established. Route documentation will remain in incident files.
- Community meetings may become more critical; especially if the fire becomes more active or threatens homes, community meetings may become more critical. Please see table below.

Key Contacts

Maintaining contact with the usual people and groups interested in a fire is assumed: USFS staff, local media, elected officials, and involved agencies, area residents. The following are some contacts unique to these fires:

- Community cooperator Peggy at Forks of the Salmon
- Eddy Gulch Lookout Barry Martin, who broadcasts updates via CB radio
- Salmon River Restoration Council, www.srrc.org
- Guides, via the Gun and Guide's Sportsman's Club, www.lassengunandguide.com
- Hikers via www.pcta.org
- Mining claim owners via California Mining Association, <http://www.calmining.org>
- Fire Safe Council (home and homeowner safety) <http://firesafecouncil.org>

Pre-Planned Information Activities

| Activation Point | Values at Risk | Outreach Activity | Who |
|---------------------------------------|---|---|--|
| Current Activity | | <i>Post incident update to e-mail contacts, InciWeb and trap line on a daily basis for all audiences.</i> | Resource personnel, PAO |
| As each hunting season opens | Access | <ul style="list-style-type: none"> • Advise hunting groups to update their websites or ask them if they would like to link to inciweb. • Create a sporting goods store trap line | Resource personnel, PAO, Public receptionists |
| As trails or roads reopen | Access | <ul style="list-style-type: none"> • Post trailhead boards • Add sporting good stores to trap line • Advise Hunters, PCTA and miners to up-date their websites or ask id they would like to link to inciweb | Resource personnel, Fire Prevention Techs, PAO, Public receptionists |
| Trigger Points 1,2,4 or 5 (see map) | Cultural sites | <ul style="list-style-type: none"> • Talk with tribal representative to determine best method(s) to keep tribal members informed. Add to daily update. | Resource personnel, PAO, Public receptionists |
| Trigger Points 1,2,3,4 or 5 (see map) | Forest Water courses Air quality Structures Communities | Advise the following contacts of potential for increased impacts and establish means to keep each updated: <ul style="list-style-type: none"> • State air quality, add to daily contact list. • Sheriff & county health department, add to daily list. Meet with structure owners, add to daily contact list. | Resource personnel, PAO, Public receptionists |
| Trigger Area 1 & 2 (see map) | Forest Water courses Air quality Structures Communities Cultural sites | <ul style="list-style-type: none"> • Contact American Red Cross as needed. Ask them to activate their 800 information line & develop information services for them. • Evaluate need for community meetings, • Evaluate need for additional PIO's to assist forest • Coordinate information dissemination with local sheriff | Resource personnel, PAO, IMT Type 1 or 2 |

XVIII - Post Burn Evaluation

Post-burn evaluations will be conducted to evaluate the degree of accomplishment of stated objectives and desired fire effects. Secondly, an evaluation of the total operation is vital to improvement of programmatic efficiency. Specific areas to be evaluated include, but are not limited to:

- Management and mitigation of safety.
- Protection of developed areas.
- Use of best available science, including weather and fire behavior forecasts, long-term risk assessments, fire growth simulations if applicable.
- Public information and education, notification of individuals, groups, and areas potentially impacted by fires.
- Strategy and tactic development and implementation.
- Consistency with Delegation of Authority directions.
- Consistency with land and resource management plans and fire management plans.
- Attention to resource management issues and concerns.
- Adequacy of local agency involvement and support.
- Economic effectiveness of management actions.