

# Corral Complex

CA-SRF-1494

## Strategic Operations Plan

as of 08/18/13 @ 1100



### **Introduction**

The Corral Complex is currently burning on the Lower Trinity District of the Six Rivers National Forest. All of the fires within the complex are located within the Trinity Alps Wilderness. This document is a strategic operating plan for long-term management of the Corral Complex. For stakeholders in the management of the Corral Complex, this document can help define where we are now, where we may want to be and how we can get there. Finally, by tracking real actions against this planning document, it can help us measure our progress in reaching our goals.

More specifically, this plan defines twenty-five specific locations where it is reasonably likely the fire could spread. For each place this plan identifies strategic goals and objectives for managing the fire. The plan also recommends specific tactical goals and objectives to attempt to meet the goals and objectives identified. Finally, the plan is self-evaluating. If this plan is largely followed and objectives are met, the planning process worked. This is useful to know for future fires. Many strategic ridgelines are used time after time for fire control in the Trinity Alps region [insert map from SHF proposed project].

A total of twenty-two fires started late on August 9, 2013. Half of those fires were at lower elevations near homes and community, while the remainder occurred in the Trinity Alps Wilderness just south and east of the 2009 Backbone Fire just two miles from the Hoopa Valley Indian Reservation. The lower elevation fires were contained and controlled over the next few days, as holdovers were detected. The 11 Wilderness Fires were all proximate to one another and were combined into the Corral Complex. Smokejumpers and heli-rappellers were inserted on the Corral Complex on 8/10, but were unable to make progress on any but the least active fires most distant from the Corral Fire.

A complexity analysis and organizational needs assessment completed on August 11<sup>th</sup> indicated the need for a Type II Incident Management Team. The complex was about 350 acres in size at the end of shift that day. Orders for Type I hand crews were going unfilled, due to competition from other fires in the State, logistical support of the few resources working in the Wilderness was insufficient, and fatigue was wearing on local initial attack resources. Don Garwood's SoCal Team #2 was ordered, traveled on August 12<sup>th</sup> and was in-briefed on the morning of August 13<sup>th</sup>, and assumed command of the fire on the morning of the 14<sup>th</sup>. At the time of transition, the complex was 1647 acres in size. Carlton Joseph's California Interagency Incident Management Team 5 is scheduled to in-brief the afternoon of August 18 and assume management on August 20. All but the Swamps and Trail Fires had either merged into the Corral Fire or had been worked and abandoned, due to the proximity of dangerous nearby fire behavior. This document addresses the entire Corral Complex.

The Corral Fire was the first of the fires to become firmly established in the heavy dead & down fuel left behind by the 1999 Megram Fire. There are many standing snags in the old Megram footprint, as well as head-high ceanothus brush. This fuel bed is nearly impassable

## Corral Complex – Strategic Operations Plan

on foot in many cases. The primary mechanism of fire spread in the old burn is aerial spotting snag-to-snag and surface fire spread log-to-log. The intense heat put off by the burning heavy fuel ignites the crowns of any nearby brush, so total smoke production is greater than a fire with more typical fuel loading.

The Corral Complex is likely to continue to grow for another couple months. The reasons the fire can't reasonably be extinguished sooner (and is not going to go out on its own) include steep, rugged and largely inaccessible terrain coupled with current and expected weather and fire behavior. Finally, the forest vegetation on all sides of the fire provides ample fuel for continued burning. Past experiences and climatology records for the Trinity River drainage suggest that it will be many weeks before the weather becomes sufficiently damp and cool to stop the Corral Complex.

Current fire suppression efforts at this time are focused on checking westerly fire spread toward the Hoopa Valley Indian Reservation and the important commercial timber values that provide jobs for local families, as well as cultural sites still being used that hold great spiritual value for the Hoopa Tribe. The Hoopa Tribe is a federally-designated tribe. The Hoopa Tribe along with the Bureau of Indian Affairs has joined the Six Rivers National Forest in Unified Command of the Corral Complex on August 17, 2013. The Hoopa Tribe has provided strategic direction to consider as proposed contingency lines that are located on the WFDSS Maps as back up only if the priority contingency lines are compromised.

Concern remains for fire spread in other directions, as well, but wilderness values must be considered. The intent of the strategic operating plan is to further build on opportunities that will provide for the highest probability of success for the duration of this incident. To successfully manage and communicate the long-term objectives, the Southern California Incident Management Team – Team 2 developed the strategic operating plan. This tool can be used to assist in implementing and informing ongoing suppression efforts as well as used as a communication tool for agency administrators, public information, and incoming incident management teams.

### **Objectives**

Provide a strategic operating plan to assist in the short-term and long-term management of the Corral Complex.

The plan is highly specific because it is based on robust knowledge about the area in and near the Corral Complex.

The plan is expected to help incident managers and agency administrators to make decisions because it addresses both strategy and operations.

The plan may help managers communicate the fire management concept of the right plan, in the right place, at the right time, with the right assets, and for the right duration.

## Management Action Points

Management Action Points (MAPs) are places the fire's leading edge may reach and where fire's arrival indicates the likely need for action. Specific suppression actions taken when the fire reaches an MAP are anticipated to limit fire spread in a certain direction and thereby protect values at risk. There are people who need to know when the fire reaches a MAP, so this document lists people to notify for each. Each MAP's description also recommends the number and kinds of operational resources needed to accomplish the mitigation.

MAPs can be implemented sequentially or simultaneously, allowing for better utilization of resources. MAP actions may be initiated at the discretion of an incident management organization. Implementation *should not* occur without consideration of current and predicted weather and fire behavior, and of other factors influencing the Corral Complex fires and their management. These factors will determine the need for implementation of the management actions as well as drive the specific location, urgency, and intensity of the actions.

All firefighting resources listed in MAP descriptions should be considered as recommendations only. In order to be safe and effective, Incident Commanders and other fire managers need the flexibility to use any tactical resources needed to meet the objectives of managing these fires. They should give careful consideration to geographic area preparedness levels and draw-down levels. **All fire management actions must be based on current and expected fire behavior, including in light of the time of year and season.**

As needed in response to the changing fire situation, it is important to update the plans in this document. The Corral Complex will grow in size and/or complexity during the rest of the fire season. New fires may start. Any of these fires may influence each other. In response to all of these changes, fire managers should reassess this document's contingency plans. Each day's operational priorities and planned strategic and tactical actions should be assessed in light of the location of fire's leading edge relative to MAPs. Add new MAP's or change existing ones as needed.

*Notes common to all firelines recommended in this document:*

The lines will be ineffective if they are not burned out as needed; Firing is presumed as part of line construction and should be coordinated with the Agency Administrators, stakeholders and resource advisors.

Coordinate with stakeholders and resource advisors before building dozer line in released roadless areas and on Hoopa Valley Indian Reservation lands.

## Management Action Point 1: Toe of Lone Pine Ridge

### Physical Location of MAP:

**West** of the fire's current perimeter

Starting at section 16 or R T, northeast along lone pine ridge to the junction of 7N roads. Due north crossing Horse Linto Creek to 7n09 road, following 7n09 road to Tish Tang Trail Head. Stay south and west of the wilderness boundary along Lone pine ridge.

**Condition:** The condition for this MAP has already been reached. Therefore the suppression actions listed below for this MAP already are being implemented. Fire is established in the Head of Horse Linto Creek.

### Values to Protect:

- Elevated Hoopa Indian Reservation Concerns: Increase interaction with Tribal council to keep council informed. Work with designation tribal council members to achieve synergy.
- Trail system
- Wilderness values and recreational opportunities
- The Trinity River below Horse Linto and Tish Tang Creek supply water to the community of Hoopa
- Spotted Owl habitat
- Cultural site important to the Hoopa Tribe.
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Roadless Values
- Old growth timber on the south side of Horse Linto Creek drainage on the north facing slope and wildlife habitat
- Highly valued plantations
- T&E fisheries in the South Fork of Tish Tang Creek and Horse Linto at risk, if High severity fire in the area due to high sedimentation.

### Actions:

Construct control line along MAP south and east of the wilderness boundary. This line is currently being utilized as a main contingency line to contain the fire from moving to the west onto Hoopa Valley Indian Reservation.

Improve segments of 7N09 road to serve as control line

Received approval for mechanized equipment in the wilderness on 8/15.

**Probability of Success:** Moderate. Time to implement but difficult terrain for dozers to operate.

**Consequences of Not Taking Action:**

There are no other logical defensible points to prevent westerly fire spread into the Hoopa Reservation.

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage

A much larger and more expensive fire

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading onto their sovereign nation.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators Six Rivers National
- Community of Hoopa. A public meeting should be considered.
- Designated Hoopa Tribal Government Representative
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Humboldt Sheriff's Office
- Community liaison
- Local Fire Safe Council Chairperson

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
1 Type 3 Helicopter



## Management Action Point 2: Bret Hole

### Physical Location of MAP:

**West** of the fire's current perimeter

Starting at Tish Tang trail head crossing the south fork of Tish Tang Creek then along ridge northeast to the peak east of Tish Tang Point. Then east to McKey Meadow and tying into 6E35 trail (that was previous a two track road) to the top of the ridge.

**Condition:** The condition for this MAP is imminent. Approval for mechanized equipment use in wilderness on this incident is pending. Fire is established in the Head of the South Fork of Tish Tang Creek.

### Values to Protect:

- Trail system
- Wilderness values and recreational opportunities
- Municipal watershed for river communities
- Spotted Owl habitat
- Important cultural sites to the Hoopa Tribe.
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Roadless Values
- Old growth timber on the south side of Horse Linto Creek drainage on the north facing slope and wildlife habitat
- Elevated Hoopa Indian Reservation Concerns
- *Highly valued plantations*
- T & E fisheries in the Mill Creek at risk if High severity fire in the are due to high sedimentary.

### Actions:

Line construction using mechanized equipment in wilderness is being considered extending from the ridgeline west of Trinity Summit on the old two-track (6E35) past Bret Hole, near McKay Meadow, and through the middle of an extensive snag patch downslope to Tish Tang trailhead. Lack of equipment and fire proximity may negate this option.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Low to Moderate. The fire is already very near this proposed line, permission to use mechanized equipment in wilderness has not yet been obtained, and the necessary equipment is not yet on-site.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Damage from wildfire to cultural resources such as the Historic property known as the De No To trail and the cultural values associated with the Ladder Rock area.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading onto their sovereign lands.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality, which compounds health issues for the 1/3 of the Hoopa population that has respiratory issues.

**Notifications:**

- Agency Administrators Six Rivers National
- Bureau of Indian Affairs, Pacific Regional Office
- Community of Hoopa. A public meeting should be considered.
- Designated Hoopa Tribal Government Representative
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Humboldt Sheriff's Office
- Community liaison
- Local Fire Safe Council Chairperson

**Resources:**

4 Type-1 Hand crews  
Feller/bunchers, excavators, dozers  
6 Falling teams  
6 Falling Bosses  
2 Division /Group Supervisor  
2 Safety Officer



## Management Action Point 3: Bear Hole

### Physical Location of MAP:

**North** of the fire's current perimeter

Intersection of 6E35 trail with the ridge line west of Trinity Summit, to 10N02 road at wilderness boundary. From the 10N02 road to the junction of 8N15 road and junction of Mill Creek (8N01) road.

**Condition:** Fire is established north of Corral Creek

### Values to Protect:

- Rich Tribal cultural values on Horse Trail Ridge and near Water Dog Lakes
- Trail system, in addition to the De No To Cultural property.
- Wilderness values and recreational opportunities
- Municipal watershed for community of Hoopa
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- *Highly valued plantations*
- T & E fisheries in the Mill Creek at risk if High severity fire in the are due to high sedimentary.

### Actions:

Construct control along ridge, tying into completed fuels treatment on 8N15 and 8N01 (Mill Creek) Roads. Base the line width on minimum width necessary for firefighter safety and controllability.

Low to Moderate fire severity here during the Megram Fire offers lifted, intact over-story canopies which would be easier to conduct burnouts from and to build control line through, as opposed to the snag patch to the south.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications.

Consider using Megram Fire under-burn between MAPs 3 and 6 for fire slowing opportunities.

**Probability of Success:** Moderate. Using this prominent ridge and tying into roads outside of wilderness, some of which have received fuel treatments may check fire spread further north, however no actions are currently planned inside the Hoopa Reservation,

so fire could flank onto the Reservation and continue northerly spread there, if logical actions are not taken to extend this work.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

Damage from wildfire to cultural resources such as the Historic property known as the De No To trail

A much larger and more expensive fire

Impacts to Trinity Alps grazing allotments.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 4: Tish Tang

### Physical Location of MAP:

From the Tish Tang trailhead follow ridge west to a ridge east of the Sing Board Gap go north to Hostler Ridge then east along the ridge to Big Hill Road (8N01) just east of the Hoopa Valley Reservation/Six Rivers NF Boundary

**Condition:** Suppression resources are unable to hold fire along MAP 1 or 2

### Values to Protect:

- Rich Tribal cultural values found within the reservation utilized by the Hoopa Tribe's living culture.
- Density of old growth Tribal timber reserve in this area ranges from dense to sparse. Close fire management coordination with the Hoopa Tribe is critical.
- \$112 million dollar old growth Tribal timber reserve is about 1.5 miles to the west of the current fire location, as well as T&E species habitat, and cultural resources.
- 9000 MBF of conifer and 1000 MBF of tanoak and 1000 MBF of wood logs in a proposed timber sale on Tish Tang Ridge, west of MAP 4
- Municipal watershed for community of Hoopa
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries in the Mill Creek at risk if high severity fire impacts riparian areas, due to high sediment loads.

### Actions:

Further planning and consideration must be given to indirect or direct suppression actions taking place within the Hoopa Sovereign Nation.

Very close coordination with the Hoopa Tribal Council will occur regarding any control actions taking place on the Reservation.

Open existing trails/roads and prepare for holding actions

**Probability of Success:** Moderate to High. The proposed lines primarily follow the Megram Fire footprint and a favorable ridgeline.

### Consequences of Not Taking Action:

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

The eastern portion of the Hoopa Valley would be at risk and structures threatened.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

Increase public information staff on the incident.

4 Type-1 Hand crews

2 Type-2 hand crews

2 Falling teams

2 Falling Bosses

1 Division /Group Supervisor

1 Safety Officer

2 Dozers

## Management Action Point 5: Mill Creek Road.

### Physical Location of MAP:

**Northwest** of the fire's current perimeter

This MAP starts at the 8N01/10N02 junction (MAP 3), and runs north along the Mill Creek Road over Horse Trail ridge continuing north on Packsaddle Ridge at the wilderness boundary and MAP #6.

In the north half of this MAP follows wilderness boundary.

**Condition:** Fire is established north of Bret Creek and Trinity Summit

### Values to Protect:

- Rich Tribal cultural values on Horse Trail Ridge and near Water Dog Lakes
- Trail system
- Wilderness values and recreational opportunities
- Infrastructure (Trailheads, bridges, corrals)
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries in the Mill Creek at risk if High severity fire in the are due to high sedimentary.
- Horse Ridge National Recreation Trail

### Actions:

Improve existing fuel treatments along the Mill Creek Road (10N02). Extend the width of the original snag mitigation to reduce the spotting potential.

Make proper notification and gain approval of mechanized equipment if in the wilderness (east of 10N02)

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Moderate. While not ideal, this mid-slope road is the last opportunity to check westerly fire spread toward the Hoopa Valley Reservation from fire backing down off Horse Trail Ridge. Some of this road has received fuel treatments may check fire spread further west. The area around the junction of the 8N01 and 10N02 Rds. experienced low to moderate fire severity during the Megram Fire and offers a lifted, intact

over-story canopy which would be easier to conduct burnouts from and to build control line through. Unfortunately the bulk of this MAP is through abundant snags.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Likelihood of continued fire spread toward the Hoopa Valley Reservation..

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading west and impacting Reservation natural resource and cultural areas.

Increased threat to natural, historic, and cultural resources

Fire could get established in the Red Cap watershed which over 85% has not had fire activity for over 60 years.

Longer period of poor air quality

Negative impacts to watershed

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Designated Karuk Tribal Government Representative
- Designated Yurok Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Community of Hoopa. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer



## Management Action Point 6: Packsaddle Ridge

### Physical Location of MAP:

**North** of the fire's current perimeter

MAP starts at MAP #3 just west of Trinity Summit, across Trinity Summit, then north along the Horse Ridge National Recreation Trail to Packsaddle ridge, continues along Packsaddle ridge north to end of 10N02A road.

**Condition:** Fire is North of Tish Tang Creek and Trinity Summit threatening Red Cap Creek, or fire is in Red Cap Creek Drainage threatening Hoopa Reservation land to the west.

### Values to Protect:

- Rich Tribal cultural values on Horse Trail Ridge and near Water Dog Lakes
- Trail system
- Infrastructure (Trailheads, bridges, corrals)
- Wilderness values and recreational opportunities
- Municipal watershed for community of Hoopa
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.

### Actions:

Work in conjunction with Tribal Liaisons for spiritual areas

Construct control line along ridge, handline only due to cultural sites

Base the line width on minimum width necessary for firefighter safety and controllability.

Low to Moderate fire severity here during the Megram Fire offers lifted, intact over-story canopies which would be easier to conduct burnouts from and to build control line through, as opposed to the snag patch to the south.

Extinguish any spot fires or slop-overs as quickly as feasible.

Utilize Minimum Impact Suppression Tactics (MIST)

**Probability of Success:** Moderate. Using this prominent ridge and tying into trail systems, however no actions are currently planned inside the Hoopa Reservation, so fire could flank onto the Reservation and continue northerly spread there, if logical actions are not taken to extend this work.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Impacts to Trinity Alps grazing allotments.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Fire could get established in the Red Cap watershed which over 85% has not had fire activity for over 60 years.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Designated Karuk Tribal Government Representative
- Designated Yurok Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 7: Devil's Backbone

### Physical Location of MAP:

**North** of the fire's current perimeter

North from MAP #6 and the intersection of the 12W02 trail with the Horse Ridge Recreational Trail along ridge system just north of the 2009 Backbone Fire to Salmon Mountain summit and the Redspot portion of the Backbone Fire from 2009.

**Condition:** Fire is North of Soldier Creek moving west or north of Tish Tang a Tang creek moving east past Horse Trail Ridge.

### Values to Protect:

- Rich Tribal cultural values
- Wilderness values and recreational opportunities
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Continue working with Tribal representatives

Construct control line along Devils Backbone Ridge to the top of Salmon Mountain ridgeline.

Evaluate and construct helispots as necessary to support crews logistically

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Low to Moderate. Ridge system is accessible, but remote and in rugged terrain. Adverse winds will make holding difficult, even during low intensity firing.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Fire would then enter the Shasta Trinity National Forest

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers and Shasta Trinity National Forests
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 8: Trinity Mountain Ridge

### Physical Location of MAP:

**East** of the fire's current perimeter

MAP starts at Trinity Summit and runs south to Trinity Mountain and terminates at the Grizzly Camp trailhead.

**Condition:** Fire has crossed Horse Linto Creek, the creek just west of Trinity Mountain Ridge. This MAP has already been reached. Therefore it is recommended to open handline on the ridge system and utilize as a contingency line.

### Values to Protect:

- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Construct handline along MAP on the Trinity Mountain ridgeline south to Trinity Mountain. Base the line width on minimum width on minimum width necessary for firefighter safety and controllability.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Moderate. The area north of this MAP burned during the 2009 Backbone Fire and still serves as a moderately effective barrier to fire spread. However, the area is steep enough to both limit and slow safe firefighter access.

### Consequences of Not Taking Action:

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage

A much larger and more expensive fire

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity County Board of Supervisors
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter



## Management Action Point 9: Lone Pine East to Grizzly Camp Trailhead

### Physical Location of MAP:

**South** of the fire's current perimeter

Map Starts at the junction of the 7N30 and 7N31 roads, extends southeast on the 7N10 road that runs along the Lone Pine Ridge to Onion Campsite, then goes northeast to Grizzly Camp along 8N02 road.

**Condition:** Fire has progressed south across Horse Linto, and East Fork Creeks.

### Values to Protect:

- Structures, private property and infrastructure, primarily in the Denny area.
- Community water source for Denny. Potential degradation after a fire includes heavy silt entering filtration plants that purify domestic-use water.
- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Implement Structure Protection Plan for Denny and evaluate preparation needs around other structures in New River area.

Extinguish any spot fires or slop-overs as quickly as feasible.

Begin looking at Denny road as contingency

**Probability of Success:** Moderate. Ridge system is an old road system that was opened back up during the Backbone Incident 2009. Good ridge system that would be fairly successful unless significant run occurs

**Consequences of Not Taking Action:**

Last of two ridge systems that align east to west for a north or south control line

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

2 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point 10: Lone Pine West

### Physical Location of MAP:

**South** of the fire's current perimeter

Map Starts at the junction of the 7N30 and 7N31 roads Map extends northwest from along 7N30 road to Horse Linto Camp.

**Condition:** Fire is established Horse Linto Creek south of Tish Tang A Tang Ridge.

### Values to Protect:

- Rich Tribal cultural values
- Trail system
- Municipal watershed for community of Hoopa
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.

### Actions:

Prepare to hold line at the Waterman Ridge MAP.

Evaluate structure protection plan for Willow Creek.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Moderate. Using this prominent ridge and tying into roads outside of wilderness, some of which have received fuel treatments may check fire spread further north, however no actions are currently planned inside the Hoopa Reservation, so fire could flank onto the Reservation and continue northerly spread there, if logical actions are not taken to extend this work.

### Consequences of Not Taking Action:

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Impacts to Trinity Alps grazing allotments.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 11: K-Rail

### Physical Location of MAP:

**Southwest** of the fire's current perimeter

From Waterman Ridge Road to the top of Tish Tang Ridge [ast where the K-Rail was located on the 8N03 Road.

**Condition:** Fire is established west of the proposed control line attempting to keep fire off the Hoopa Valley Indian Reservation, running from Lone Pine Ridge through the Horse Linto and back up to McKay Meadow (MAPs #1 & 2)

### Values to Protect:

- Recreation site including (Hoopa Campground and Tish Tang Campground)
- National scenic byway
- Structures around river corridor and Hwy 96
- Rich Tribal cultural values
- Trail system
- Municipal watershed for community of Hoopa
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- High value plantations
- Infrastructure including Communication Tower on Lone Pine Ridge, and main transition lines down Hwy 96 corridor

### Actions:

Initiate and follow structure protection and evacuation plan for Hwy 96 corridor

Make notifications to CHP to initiate traffic control for Hwy 96

Improve and prepare to hold the 8N03 road

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Moderate to Good

**Consequences of Not Taking Action:**

Fire could get up on Tish Tang ridge and then down into Tish Tang creek which would be harder to control.

Highway 96 a main ingress and egress to Hoopa Indian Reservation may require closure or partial closure, hampering transportation in the area.

Smoke would impact all river communities in the area.

Effects on water quality and potential impacts to fisheries and river recreation

A much larger and more expensive fire

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

- 1 Type-1 Hand crews
- 2 Type-2 hand crews
- 1 Division /Group Supervisor
- 1 Safety Officer
- 3 Type 3 engines
- 1 Dozer



## Management Action Point 12: Waterman Ridge

### Physical Location of MAP:

**South** of the fire's current perimeter.

The entire length of Waterman Ridge. This is the last defensible ridge before the community of Willow Creek. Route 4 to the 7N04 Rd. to the 6N10 Rd. to the Forest Boundary near Happy Camp CG, then down the toe of Waterman Ridge along the Forest Boundary to the Trinity River.

**Condition:** Fire is established south of Lone Pine Ridge

### Values to Protect:

- Waterman is the last defensible ridge system before the large regional hub community of Willow Creek. At the base of Waterman is the **Bigfoot subdivision** above the golf course and country club. Continuing past the ICP and crossing the Trinity River, the Patterson Road goes west (left) to the Bigfoot Subdivision and Rt. 4 (north end of Waterman Ridge). Turning right after the river is the Seely Macintosh Rd. which follows the river upstream (on the opposite bank from Hwy 299) over Campbell Ridge (MAP 15) to Salyer Loop. There are many homes off both these roads near Willow Creek immediately at risk if the fire backs down Waterman Ridge. Consult with Willow Creek Fire Safe Council. A Community Wildfire Protection Plan (CWPP) exists for Willow Creek and communities upstream along Hwy. 299.
- Communities of Salyer Loop and Trinity Village are also immediately at risk after fire crosses Waterman Ridge.
- Trail system
- Wilderness values and recreational opportunities
- Municipal watershed Willow Creek
- Hawkins Creek is the water supply for Trinity Village.
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries in the Mill Creek at risk if High severity fire in the area due to high sedimentary.

### Actions:

Improve old dozer lines on Waterman ridge road and burn out.

## Corral Complex – Strategic Operations Plan

Initiate and implement structure protection and evacuation plan

Provide point protection of structures in Bremmer Ridge/Coon Creek

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Moderate. By utilizing existing roads and past dozer line systems, fire could be held in check by improving upon these existing control lines.

### **Consequences of Not Taking Action:**

Threat to structures on Ziegler Mountain, and the communities of Willow Creek and Salyer

A much larger and more expensive fire

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

### **Notifications:**

- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Willow Creek Fire Safe Council Chairperson
- Communities of Willow Creek, Salyer Loop and Trinity Village. Public meetings should be considered.

### **Resources:**

4 Type-1 Handcrews

5 Type-3 engines

5 Division /Group Supervisor

1 Safety Officer

2 Strike teams of structure engines

## Management Action Point 13: Waterman to Lone Pine

### Physical Location of MAP:

**Southeast** of the fire's current perimeter

Happy Camp CG roughly following the Forest Boundary along the 8N02 Rd. to the junction with the 7N10 Rd. on top of Lone Pine Ridge and the junction with MAP 9.

**Condition:** Fire has reached MAP #9

### Values to Protect:

- Community of Dailey is located just two miles downslope following Bell and Panther Creeks. This community is located four miles south of Denny on the Denny Road.
- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including the New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers (New River)
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Prepare the 8N02 Road for use as a control line

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Moderate. This road system is fairly wide and should facilitate checking the fire's spread, however the flat Lone Pine Ridge often experiences higher wind speeds.

**Consequences of Not Taking Action:**

Fire could go over the Happy Camp Mountain Ridge and threaten the town of Denny.

A much larger and more expensive fire

Initiate and implement structure protection and evacuation plan for the town of Denny.

Late Successional Reserve area west of this MAP.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. ..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt & Trinity Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Communities of Denny and Dailey. A public meeting should be considered.

**Resources:**

- 4 Type-1 Hand crews
- 2 Type-2 hand crews
- 2 Falling teams
- 2 Falling Bosses
- 1 Division /Group Supervisor
- 1 Safety Officer

## Management Action Point 14: Ziegler Ridge

### Physical Location of MAP:

**South** of the fire's current perimeter

Roughly follows the paved Route 4 down off Waterman Ridge, over Ziegler Point and down to Trinity Village and the junction with the Denny Road.

**Condition:** Fire is established south of Waterman Ridge.

### Values to Protect:

- Trinity Village is a large subdivision of several dozen homes on the north shore of Trinity River at the junction of the Denny Rd. and Route 4.
- Trail system
- River recreational opportunities on the Trinity River
- Community water supply
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries at risk in the Trinity River at risk in the event of high severity fire, which could promote sedimentation.

### Actions:

Construct control along ridge, tying into completed fuels treatment (Salyer-Hawkins Bar project) on the lower end of the Rt. 4 Road. Base the line width on minimum width necessary for firefighter safety and controllability.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** High. Using this prominent ridge would check lateral fire spread up or down-canyon, should the fire slop over Waterman Ridge. The tow of the ridge has had some fuel treatments (Salyer-Hawkins Bar project). Utilize local District Fire staff to identify these projects.

### Consequences of Not Taking Action:

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Increased smoke impacts to Hwy. 299 corridor, a principle commercial artery connecting the Sacramento Valley with the North Coast.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt & Trinity County Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Communities of Hawkins Bar and Trinity Village. Public meetings should be considered.

**Resources:**

- 4 Type-1 Hand crews
- 2 Type-2 hand crews
- 2 Falling teams
- 2 Falling Bosses
- 1 Division /Group Supervisor
- 1 Safety Officer



## Management Action Point 15: Campbell Ridge

### Physical Location of MAP:

**South** of the fire's current perimeter

Roughly follows the 7N15 Rd. from the top of Waterman Ridge and Rt.4 down Campbell Ridge to the Trinity River

**Condition:** Fire is established south of Lone Pine Ridge.

### Values to Protect:

- Community of Salyer Loop is at the base of Campbell Ridge on the north side of the Trinity River.
- Trail system
- Trinity River recreational opportunities.
- Salyer Loop community water supply
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries at risk in the Trinity River at risk in the event of high severity fire, which could promote sedimentation.

### Actions:

Establish the minimal control line required after tying into completed fuels treatment (Salyer-Hawkins Bar project) east of the 7N15 Road all the way down the ridge to the community of Salyer Loop.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** High. Using this prominent ridge, much of which has received fuel treatments may check fire lateral fire spread up- and down-canyon on the south face of Waterman Ridge above the Trinity River. A significant fuel reduction project including prescribed burning has occurred extending from the top of Campbell Ridge all the way down to the edge of the community.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Increased smoke impacts to Hwy. 299 corridor, a principle commercial artery connecting the Sacramento Valley with the North Coast.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.

Increased threat to natural, historic, and cultural resources

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Salyer Loop. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 16: Trinity River North

### Physical Location of MAP:

**West** of the fire's current perimeter

Follows the Trinity River from the mouth of Horse Linto Creek upstream through Willow Creek to the toe of Patterson Ridge (MAP 15)

**Condition:** Fire has reached or is nearing the Trinity River.

### Values to Protect:

- Hwy. 299 corridor, a principle commercial artery connecting the Sacramento Valley with the North Coast.
- Hundreds of homes and commercial structures on the west and south side of the Trinity River, including downtown Willow Creek.
- Trinity River recreational opportunities
- Highly valued plantations
- Municipal watershed for community of Willow Creek
- Spotted Owl habitat
- Air Quality – Major impact to Willow Creek and surrounding river communities.
- T & E fisheries at risk in the Trinity River at risk in the event of high severity fire, which could promote sedimentation.

### Actions:

Make notification to appropriate agencies for evacuations along the Hwy 299 and Hwy 96 corridors

Make notifications and coordinate traffic control along both highway corridors

Implement structure protection plan (see Willow Creek CWPP)

Continue to hold fire at 299 to prevent further spread to the west or south

Develop additional strategies and plans for lands south of 299 and west of Hwy 96.

Extinguish any spot fires or slop-overs as quickly as feasible.

**Probability of Success:** High. The Trinity River is a large drainage, with excellent access along Hwy. 299 and Hwy 96, so spotting could be picked up short of a major

downslope push off Waterman Ridge. Be aware of many live electric lines and other energy infrastructure.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgelines on the opposite side of the Trinity River, which could result in increased resource damage, verse a backing fire off the ridgeline.

Possible closure of Hwy. 299 or Hwy 96.

A much larger and more expensive fire

Trinity River closure to recreation

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Willow Creek Fire Safe Council Chairperson
- Community of Willow Creek. Public meetings should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 17: Trinity River South

### Physical Location of MAP:

**South** of the fire's current perimeter

Follows the Trinity River upstream from the toe of Campbell Ridge to the Mouth of the New River

**Condition:** Fire has reached or is nearing the Trinity River.

### Values to Protect:

- Fire could align itself for significant runs up to ridgelines on the opposite side of the Trinity River, which could result in increased resource damage, verse a backing fire off the ridgeline.
- Possible closure of Hwy. 299.
- A much larger and more expensive fire
- Trinity River closure to recreation
- Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.
- Increased threat to natural, historic, and cultural resources
- Longer period of poor air quality

### Actions:

Make notification to appropriate agencies for evacuations along the Hwy 299 corridors

Make notifications and coordinate traffic control along both highway corridors

Implement structure protection plan (see Willow Creek CWPP)

Continue to hold fire at 299 to prevent further spread to the west or south

Develop additional strategies and plans for lands south of Hwy. 299.

Extinguish any spot fires or slop-overs as quickly as feasible.

**Probability of Success:** High. The Trinity River is a large drainage, with excellent access along Hwy. 299 and Hwy 96, so spotting could be picked up short of a major downslope push off Waterman Ridge.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgelines on the opposite side of the Trinity River, which could result in increased resource damage, verse a backing fire off the ridgeline.

Possible closure of Hwy. 299 or Hwy 96.

A much larger and more expensive fire

Trinity River closure to recreation

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt & Trinity County Sheriff's Office
- California Highway Patrol
- Community liaison.
- Local Fire Safe Council Chairpersons (Willow Ck. And Burnt Ranch Gorge)
- Communities of Burnt Ranch, Hawkins Bar. Public meetings should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 18: Denny Road

### Physical Location of MAP:

**Southeast** of the fire's current perimeter

The entire Denny Road (County Road 402) from Trinity Village past Denny to the point where the New River diverges from the road (MAP 27).

**Condition:** Fire is established in the Quinby Creek drainage or the Bell and Panther Creek drainages above Daily

### Values to Protect:

- Communities of Daily and Denny
- Trail system
- Bell Quinby Inventoried Roadless
- Community water supplies
- Spotted Owl habitat/Late Successional Reserve
- Only evacuation route out of the fire area
- New River Wild and Scenic River
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries in the New River at risk if High severity fire in the are due to high sedimentary.

### Actions:

Follow preplanned structure protection and evacuation plan for the communities of Denny and Daily

Implement campground and road closures.

Extinguish any spot fires or slop-overs as quickly as feasible.

Implement campground, road and trail closures, as well as public notifications

**Probability of Success:** Low to Moderate. The Denny Road is mid-slope from Trinity Villag to the New River, so rollout would hamper holding, however better success would be expected where the road parallels the New River.



**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Impacts to Trinity Alps Wilderness recreation and access.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics.

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Trinity County Sheriff's Office
- Community liaisons.
- Local Fire Safe Council Chairperson
- Community of Denny and Trinity Village. Public meetings should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer

## Management Action Point 19: Last Chance Ridge

### Physical Location of MAP:

**East** and south of the fire's current perimeter

Map Starts south of Fawn ridge along the Trinity Mountain Ridge, then runs south to the Denny road,

**Condition:** Fire has crossed east of Grizzly Camp, south of Barron Creek and direct attack is unsuccessful.

### Values to Protect:

- Community of Denny
- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Initiate structure protection plan for the community of Denny.

Make notification to local agency for precautionary and or mandatory evacuations of the community of Denny

Initiate road and trail closures and public notifications

Improve the Denny road and prepare it to be used as control line

Extinguish any spot fires or slop-overs as quickly as feasible.

**Probability of Success:** Moderate. Ridge system is an open ridge that would not take long to improve and establish it as a control line. However, ridge runs north and south making it difficult to hold we either west or east winds.

**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

High public option in the area regarding not being aggressive. Could increase public perception.

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

2 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point 20: Barron Creek

### Physical Location of MAP:

**East** of the fire's current perimeter

Ridgeline that runs from Trinity Mountain Ridge towards the confluence of New River and Barron Creek.

**Condition:** Fire crosses Fawn MAP and is not likely to be picked up with direct attack.

It is recommended to construct control line along the MAP prior to Fire reaching the Fawn MAP, since it is unlikely that the line could be completed prior to reaching the Barron Creek MAP.

### Values to Protect:

- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Construct handline along MAP. Base the line width on minimum width on minimum width necessary for firefighter safety and controllability.

Extinguish any spot fires or slop-overs as quickly as feasible.

**Probability of Success:** Moderate to High. Line has been successful as a control line in the past. Decreased fire activity is expected on the north aspect that would lead to control line. Ridge system is narrow and steep for firefighters and if a significant North wind event occurs, it may have a decreased probability of success.

### Consequences of Not Taking Action:

Main watershed for the community of Denny will be threatened

Poor public opinion. Local area is critical of decisions not to take action

A much larger and more expensive fire

Infrastructure and structure threat to Community of Denny

## Corral Complex – Strategic Operations Plan

Increased threat to natural, historic, and cultural resources  
Longer period of poor air quality

### **Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

### **Resources:**

2 Type-1 Hand crews  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point **21: Fawn Ridge**

### **Physical Location of MAP:**

**East** of the fire's current perimeter

South of Trinity Mountain Peak to ridge system that runs east, called Fawn Ridge

**Condition:** Fire has crossed the Trinity Mountain Ridge and is unlikely to be contained with direct attack.

### **Values to Protect:**

- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### **Actions:**

Improve line that was established for contingency line on the Backbone Fire 2009..

Extinguish any spot fires or slop-overs as quickly as feasible.

Begin looking at Barron Creek MAP as contingency

**Probability of Success:** Low to Moderate. Fire should reach Fawn ridge from the North aspect. Significant snags from Megram Fire of 1999 remain that will make control efforts difficult.

### **Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

4 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter



## Management Action Point 22: Ridge South of Soldier Creek

### Physical Location of MAP:

**East** of the fire's current perimeter

North of Trinity Mountain Peak. Ridge system north of Sixmile Creek that runs northeast to Virgin Creek

**Condition:** Fire has crossed the Trinity Mountain Ridge, is south of unnamed ridge and is unlikely to be contained with direct attack.

### Values to Protect:

- Structures, private property and infrastructure, primarily in the Denny area.
- Community water source for Denny. Potential degradation after a fire includes heavy silt entering filtration plants that purify domestic-use water.
- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### Actions:

Improve line that was established for contingency line on the Backbone Fire 2009..

Extinguish any spot fires or slop-overs as quickly as feasible.

Begin looking at Barron Creek MAP as contingency

**Probability of Success:** Moderate to High. Ridge system is an old road system that was opened back up during the Backbone Incident 2009. Good ridge system that would be fairly successful unless significant run occurs

### Consequences of Not Taking Action:

Last of two ridge systems that align east to west for a north or south control line

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

2 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point **23: Slide Creek**

### **Physical Location of MAP:**

**East** of the fire's current perimeter

The creek that forks off the New River towards the Northeast.

**Condition:** Fire has crossed Virgin Creek MAP, north of the New River and is unlikely to be caught with initial attack.

### **Values to Protect:**

- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### **Actions:**

Improve and prepare Slide Creek trail from the southern line up to Mary Blaine Mtn.

*Notes common to this waterway:*

Where this line has been utilized in the past, scouting of the line must occur to determine feasibility. Conditions could have changed and snags could have jeopardized the line.

Extinguish any spot fires or slop-overs as quickly as feasible.

**Probability of Success:** Moderate. This line has been successful on both the Megram and Bake-oven fires. Success is increased when backing fire down to the Slide creek drainage is achieved.

### **Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

3 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point **24: Salmon Mountain Summit**

### **Physical Location of MAP:**

**North** of the fire's current perimeter

Salmon Mountain Summit along the ridge through Youngs Peak to Mary Blaine Mountain

**Condition:** Fire has exited the 2009 Backbone Fire and is getting established in the upper reaches of Eightmile, Virgin or Slide Peaks.

### **Values to Protect:**

- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, campgrounds)
- Private property along the South Fork of the Salmon River
- Trinity Alps Wilderness recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including tributaries of the South Fork of the Salmon River
- Anadromous fish habitat
- Critical Habitat for Northern Spotted Owl
- Sensitive plants

### **Actions:**

Note: No actions may be necessary, should the Butler Fire extend further south past Hotelling Ridge.

Improve and prepare Salmon Mountain Summit along some of the same control lines utilized in the 2009 Backbone (Redspot) Fire.

*Notes common to this waterway:*

Where this line has been utilized in the past, scouting of the line must occur to determine feasibility. Conditions could have changed and snags could have jeopardized the line.

Extinguish any spot fires or slop-overs as quickly as feasible.

**Probability of Success:** Moderate to high. This line has been successful on both the Megram and Hog Fires. This is a pronounced ridge with ample bare ground.

### **Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increase resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest, Shasta-Trinity National Forest, and Klamath National Forest)
- Forest fire duty officers (Six Rivers National Forest, Shasta-Trinity National Forest, and the Klamath National Forest)
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Forks. A public meeting should be considered.

**Resources:**

3 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point **25: Virgin Creek Trail**

### **Physical Location of MAP:**

**East** of the fire's current perimeter

A trail that runs along Virgin Creek that begins at confluence of Soldier Creek and Virgin Creek and ends south on the 7N01 Road.

**Condition:** Fire has crossed Trinity Mountain ridge and direct attack is unsuccessful.

### **Values to Protect:**

- Sensitive cultural resources, including historic structures, and prehistoric sites
- Infrastructure (Trailheads, bridges, corrals)
- Private property
- Recreation opportunities: Trail Systems, Trail heads, camping, hunting and other opportunities
- Mineral and patented mining claims
- Visual/scenic characteristics
- Air and water quality, including Quinby Creek and New River that are major water sources for local communities
- Anadromous fish habitat
- Wild/Scenic Rivers
- Bat Caves
- Critical Habitat for Northern Spotted Owl and New River deer herd
- Sensitive plants

### **Actions:**

Improve and prepare Virgin Creek trail from the southern line up to Eightmile confluence.

*Notes common to this waterway:*

Where this line has been utilized in the past, scouting of the line must occur to determine feasibility. Conditions could have changed and snags could have jeopardized the line.

Extinguish any spot fires or slop-overs as quickly as feasible.

Consider road and trail closures and public notifications

**Probability of Success:** Low. Low intensity backing fire down to the creek could improve probability of success to Moderate.



**Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

High public option in the area regarding not being aggressive. Could increase public perception.

Poor public opinion. Local area is critical of decisions not to take action

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Agency Administrators (Six Rivers National Forest and Shasta-Trinity National Forest)
- Forest fire duty officers (Six Rivers National Forest and Shasta-Trinity National Forest)
- Designated Hoopa Tribal Government Representative
- Trinity Sheriff's Office
- Community liaison. Trinity County Local Area Advisors
- Local Fire Safe Council Chairperson
- Community of Denny. A public meeting should be considered.

**Resources:**

2 Type-1 Hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
4 Helicopter Crewmembers  
1 Type 3 Helicopter

## Management Action Point **26: Hostler Point**

### **Physical Location of MAP:**

From the knoll above 8N03 (where the K-Rail was) on the Tish Tang A Tang Ridge, follow ridge east to the next knoll on the 8N14A road; Follow supr ridge north to a saddle east of Hostler Point, then east along ridge and intersection of MAP 4.

**Condition:** Suppression resources are unable to hold fire along MAP 1 or 2

### **Values to Protect:**

- Rich Tribal cultural values found within the reservation utilized by the Hoopa Tribe's living culture.
- Density of old growth Tribal timber reserve in this area ranges from dense to sparse. Close fire management coordination with the Hoopa Tribe is critical.
- \$112 million dollar old growth Tribal timber reserve is about 1.5 miles to the west of the current fire location, as well as T&E species habitat, and cultural resources.
- 9000 MBF of conifer and 1000 MBF of tanoak and 1000 MBF of wood logs in a proposed timber sale on Tish Tang Ridge, west of MAP 4
- Municipal watershed for community of Hoopa
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries in the Mill Creek at risk if high severity fire impacts riparian areas, due to high sediment loads.

### **Actions:**

Further planning and consideration must be given to indirect or direct suppression actions taking place within the Hoopa Sovereign Nation.

Very close coordination with the Hoopa Tribal Council will occur regarding any control actions taking place on the Reservation.

Open existing trails/roads and prepare for holding actions

**Probability of Success:** Moderate to High. The proposed lines primarily follow the Megram Fire footprint and a favorable ridgeline.

### **Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

The eastern portion of the Hoopa Valley would be at risk and structures threatened.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

Increase public information staff on the incident.

4 Type-1 Hand crews

2 Type-2 hand crews

2 Falling teams

2 Falling Bosses

1 Division /Group Supervisor

1 Safety Officer

2 Dozers

## Management Action Point **27: Long Ridge**

### **Physical Location of MAP:**

From Big Hill Road (8N01) just west of the reservation boundary, follow Long Ridge north to Mill Creek

**Condition:** Suppression resources are unable to hold fire along MAP 5

### **Values to Protect:**

- Rich Tribal cultural values found within the reservation utilized by the Hoopa Tribe's living culture.
- Density of old growth Tribal timber reserve in this area ranges from dense to sparse. Close fire management coordination with the Hoopa Tribe is critical.
- \$112 million dollar old growth Tribal timber reserve is about 1.5 miles to the west of the current fire location, as well as T&E species habitat, and cultural resources.
- 9000 MBF of conifer and 1000 MBF of tanoak and 1000 MBF of wood logs in a proposed timber sale on Tish Tang Ridge, west of MAP 4
- Municipal watershed for community of Hoopa
- Spotted Owl habitat
- Air Quality – Nighttime smoke will follow dominate drainages into communities.
- Highly valued plantations
- T & E fisheries in the Mill Creek at risk if high severity fire impacts riparian areas, due to high sediment loads.

### **Actions:**

Further planning and consideration must be given to indirect or direct suppression actions taking place within the Hoopa Sovereign Nation.

Very close coordination with the Hoopa Tribal Council will occur regarding any control actions taking place on the Reservation.

Open existing trails/roads and prepare for holding actions

**Probability of Success:** Moderate to High. The proposed lines primarily follow the Megram Fire footprint and a favorable ridgeline.

### **Consequences of Not Taking Action:**

Fire could align itself for significant runs up to ridgeline that could result in increased resource damage, verse a backing fire off the ridgeline.

A much larger and more expensive fire

The eastern portion of the Hoopa Valley would be at risk and structures threatened.

Adverse public opinion in the local community regarding insufficiently aggressive suppression tactics. The Hoopa Tribe will have grave concerns about the fire spreading north and impacting spiritually important areas on Forest Service lands..

Increased threat to natural, historic, and cultural resources

Longer period of poor air quality

**Notifications:**

- Designated Hoopa Tribal Government Representative
- Agency Administrators Six Rivers National
- Forest fire duty officers Six Rivers National Forest
- Humboldt Sheriff's Office
- Community liaison.
- Local Fire Safe Council Chairperson
- Community of Hoopa. A public meeting should be considered.

**Resources:**

Increase public information staff on the incident.  
4 Type-1 Hand crews  
2 Type-2 hand crews  
2 Falling teams  
2 Falling Bosses  
1 Division /Group Supervisor  
1 Safety Officer  
2 Dozers

## Data Appendices

### Management Action Points (attached)

### Fire Modeling and Other Considerations

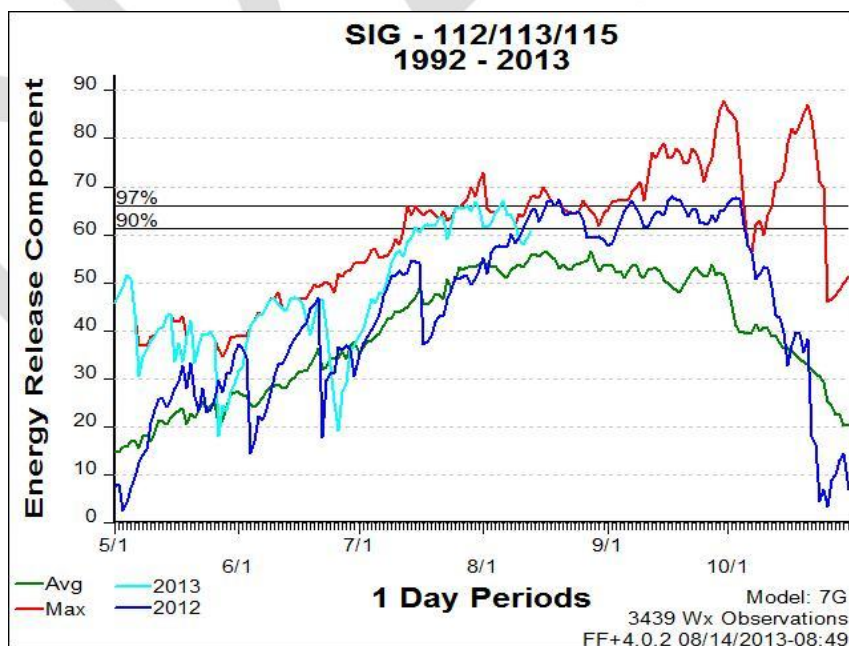
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#### Fire Modeling Introduction:

Fire modeling supported the development the strategic operation plan. A short term (2 days), near term (4 days) and long term (7 day) Fire Spread Probability (FSPro) analysis was conducted. The intent of the modeling was assist identification of management action points and determine probability of success. Fire modeling helps identify vulnerable suppression strategies and tactics areas based on fuels and weather conditions in which fire may spread more easily. Noting these weak points can also provide the decision makers with recommended actions to mitigate such areas.

An additional analysis was completed for the “what if” scenario. Specific fire behavior characteristics were derived in areas where there was potential for spot fires to cross MAPs. This exercise helped determine if these spots had the fire behavior potential thus triggering additional management actions.

#### Fuel Moisture/ERC



### **Other Considerations:**

The steep and complex landscape of the Trinity River Drainage creates a unique interaction with fire weather and elevation during the hot, dry summers when high pressure prevails and smoke does not dissipate; this often results in temperature inversions. While these inversions can lead to benign fire behavior, they can also create public health issues and concerns: high densities of smoke particulates, large coverage areas and persistence for many days. Willow Creek, Hoopa, and other surrounding communities have often experienced long periods of smoke exceeding EPA standards.

When the temperature inversions are broken by high winds or a changing air mass, fire behavior can increase significantly, resulting in large areas of high-severity fire. In addition, as the fires move into higher elevations, they burn above the inversion layer thus supporting a longer burning period.

Experience has shown the elevation of the inversion layer averages around 4,300 feet above ground level. This assessment should be taken into consideration when undertaking fire modeling or implementing management actions.

Fire effects of management actions should always be considered. Actions should be planned and communicated before implementing in areas where there is potential of severe fire effects. In some areas, promoting low severity fire can benefit the landscape in the long-term.

### **WFDSS – FSPro Probability (attached)**

### **WFDSS – Near-Term Fire Behavior Analysis (attached)**

### **Wind Roses**

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The wind rose is a tool to display historical wind observations. It is useful for highlighting winds that may be problematic for the Corral Complex. The analysis below shows the likely duration remaining for the Corral Fire and how wind typically shifts as autumn progresses.

Directions for reading a wind rose follows.<sup>1</sup>

- The wind rose shows directional origin of wind for the period of historical data it displays. North is up, south down, etc...

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<sup>1</sup> Derived from <http://plone.airfire.org/wfdss-aq/help/raws-wind-roses>.



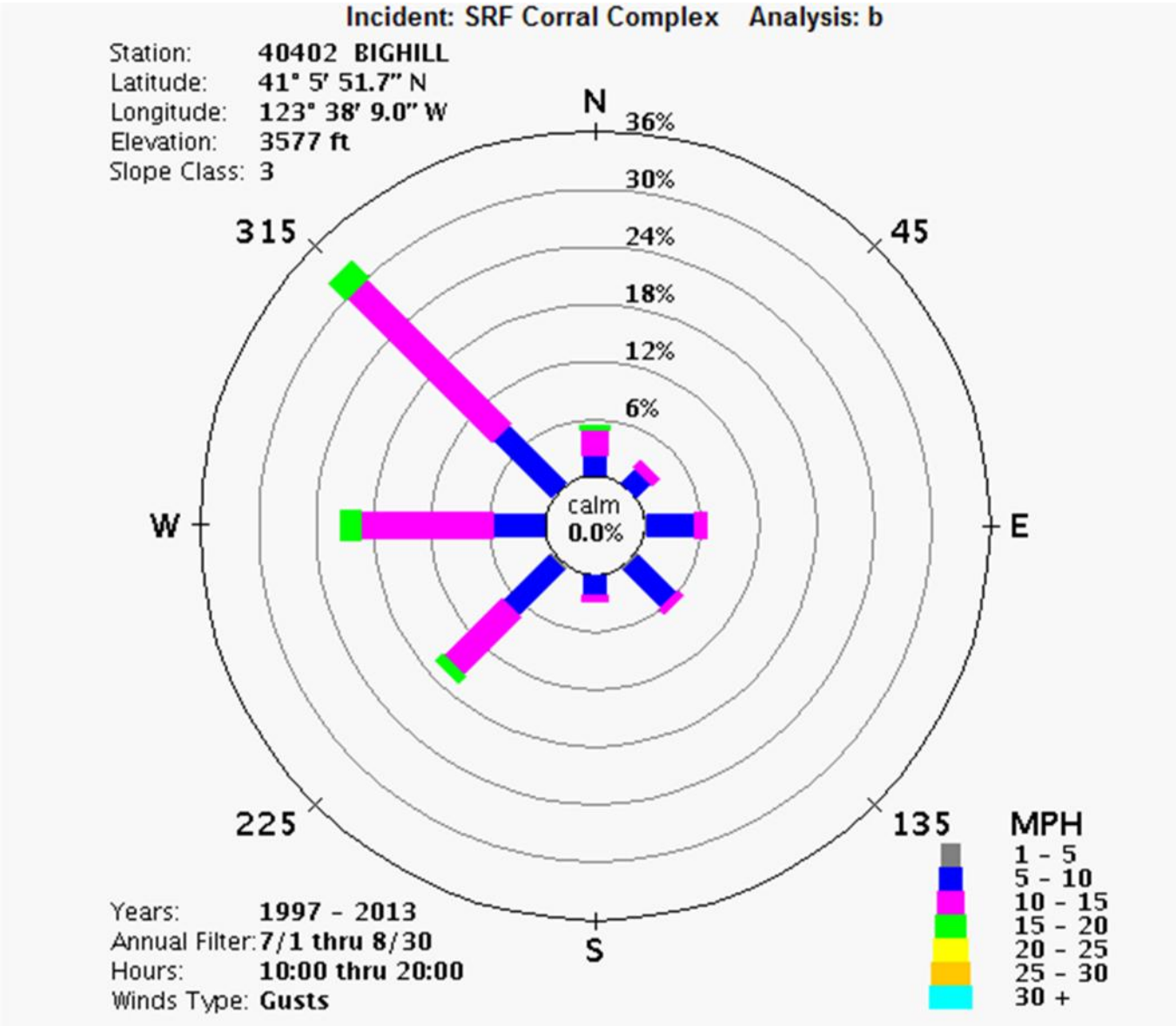
- Wind observation data is binned into directional angles. For each direction, the portion of time the winds come from that direction is highlighted by the total length of the bar on the graphic.
- Within each directional bar the color coding indicates the distribution of wind speeds. Both the relative proportion of time when each wind speed category occurred, and the absolute percentage of observations for each wind speed and directional bin is shown.

### **Analysis:**

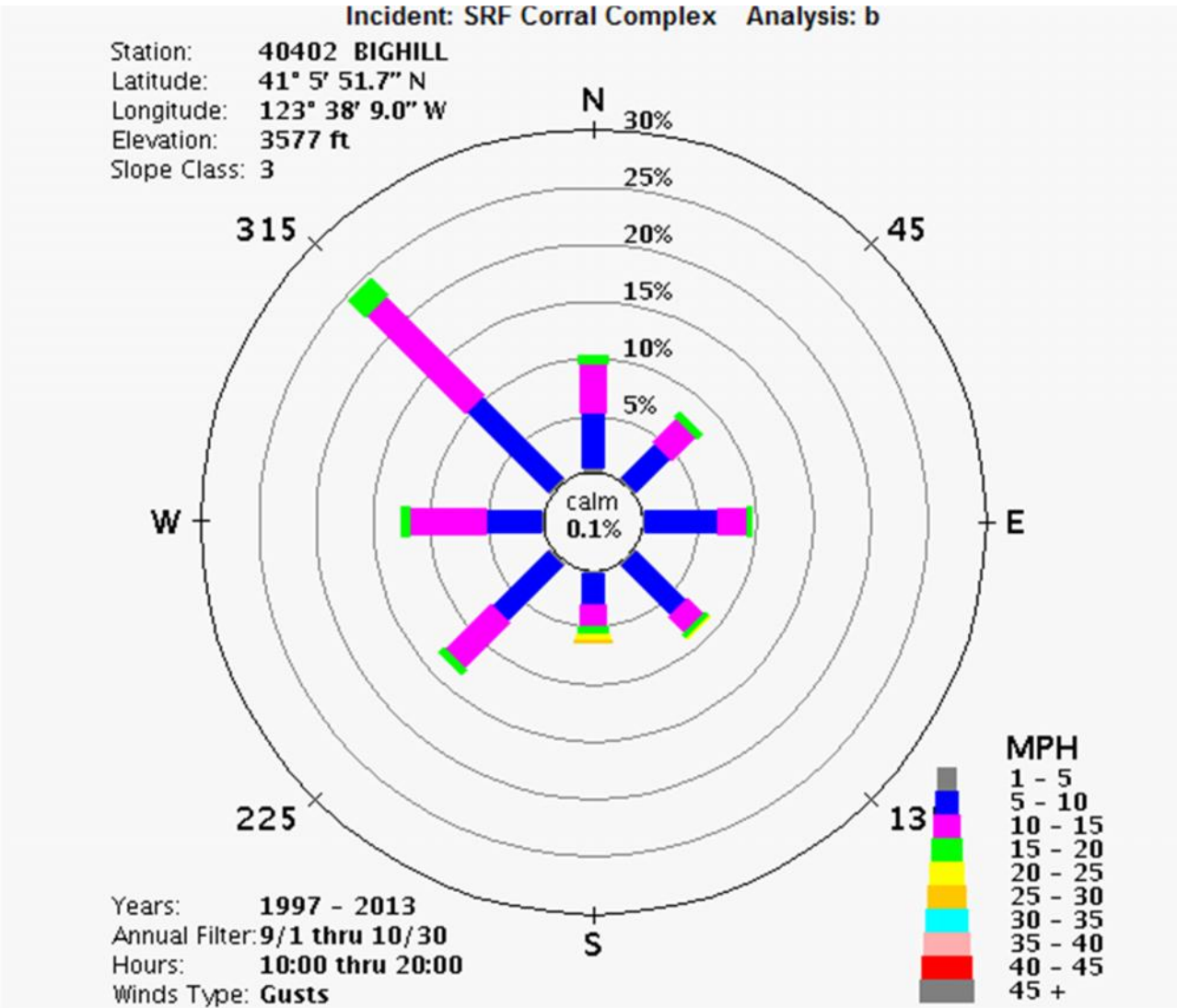
Two time periods (Jul-Aug & Sept-Oct) were selected to display the predominant winds and problematic winds for the Corral Complex. Big Hill RAWS was used for this analysis. The predominant and strongest winds in the earlier period are out of the west and northwest and southwest. Smaller percentages of wind occur in all other directions.

There is a noteworthy change in wind rose in the Sep-Oct analysis. The main highlight is an increased chance of wind speeds with an easterly component. Large fire growth on the Megram and other fires in the region has historically been impacted by dry offshore winds out of the east and north in the late summer and fall. Should the Corral Complex burn into these months, increased spread to the west can be expected

Jul-Aug



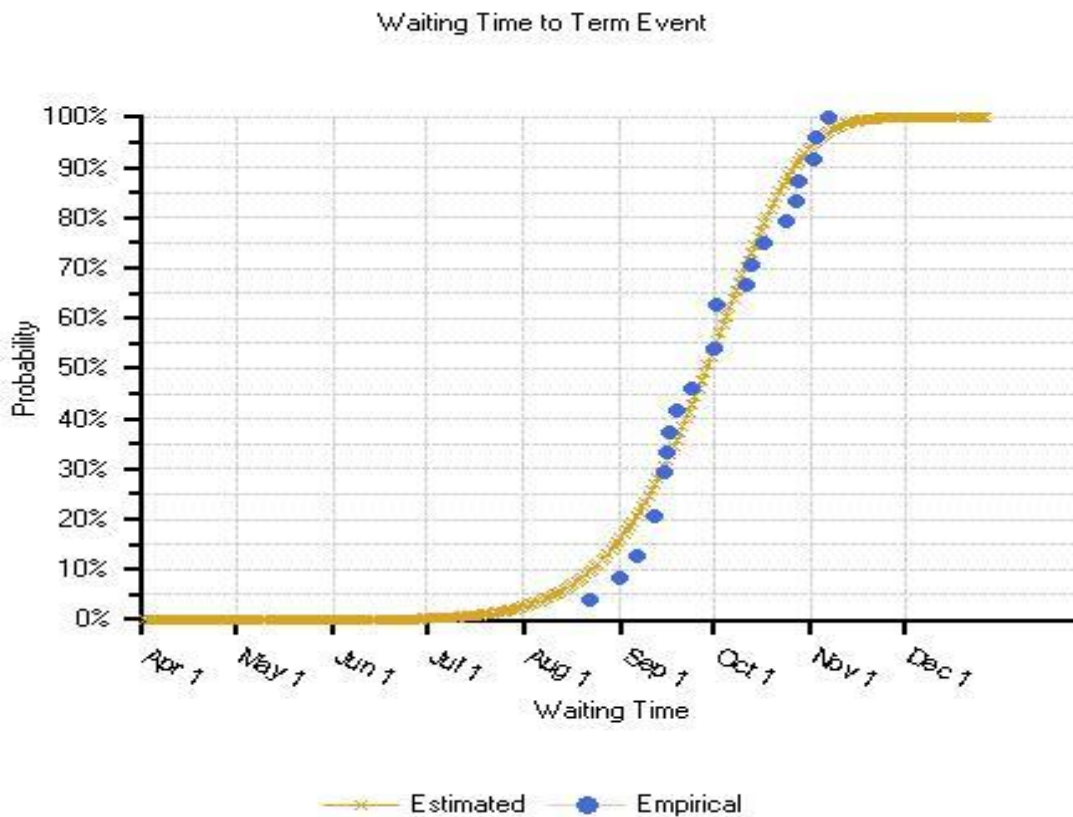
Sep-Oct



## Season End

Fire season commonly ends with a large scale rain event in the Klamath Mountains, but they can also end with the onset of shorter days and cooler/moister conditions. Often, a fire season fades away due to a combination of scattered, smaller precipitation events and changing day length and sun angle which, in turn, translates into lower maximum temperature, higher relative humidity, and a shorter burn period. Energy release component (ERC)<sup>2</sup> can serve as an integrator of all these factors.

From an earlier analysis on fires in the nearby Salmon River drainage, we developed criteria for estimating the end of fire season by talking with fire managers at the Klamath National Forest. The criteria selected included ½ inch of rain over a five day period, throughout which the ERC never climbed above 50. Using the dates from this analysis we developed a Term file for the probability of season-ending dates displayed in the graphic below.



<sup>2</sup> Energy release component (ERC) is a National Fire Danger Rating System (NFDRS) index related to how hot a fire could burn. It is derived from daily weather records and is associated with the worst case 24-hour potential energy at the flaming front of a given fire. This index tracks well with warming and drying as the season progresses and with the eventual cooling and lower fire potential as the season winds down. As the fuels dry through the season and become available to burn, adding to the potential energy, the ERC rises. As the days get shorter, temperatures fall, and nighttime humidity rises, the ERC falls.

## Fire Slowing Event

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Along with season ending events, there is a possibility of fire-slowng 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 probability of receiving greater than 0.25 inches of rain in one day was derived using the Blue Ridge RAWS. The likelihood of such events increases significantly in the latter part of September with the return of frontal systems moving in off the Pacific Ocean.

<b>Time Period</b>	<b>Total Number of Days Receiiving &gt;0.25 inches of Rain 1961-1979 &amp; 1999-2010 Blue Ridge RAWS</b>	<b>Probability of Having at Least One Fire Slowing Event During this Time Period</b>
Late August	12	39%
Early September	6	19%
Late September	23	74%
Early October	24	77%