



Rattle fire 2008
wildfire on the Umpqua NF

Robert Cunningham 2008

The Rattle Fire 2008
Wilderness Fire on the
Umpqua National Forest



USDA Forest Service, Region 6

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Umpqua National Forest
2900 NW Stewart Parkway
Roseburg, OR 97471
(541) 672-6601
www.fs.fed.us/r6/umpqua

Visit YouTube to see a video of the Rattle Fire with unedited photos and video clips from firefighters and other fire personnel. (9 min. 40 sec.)

http://www.youtube.com/watch?v=lt4_uZXhgwI

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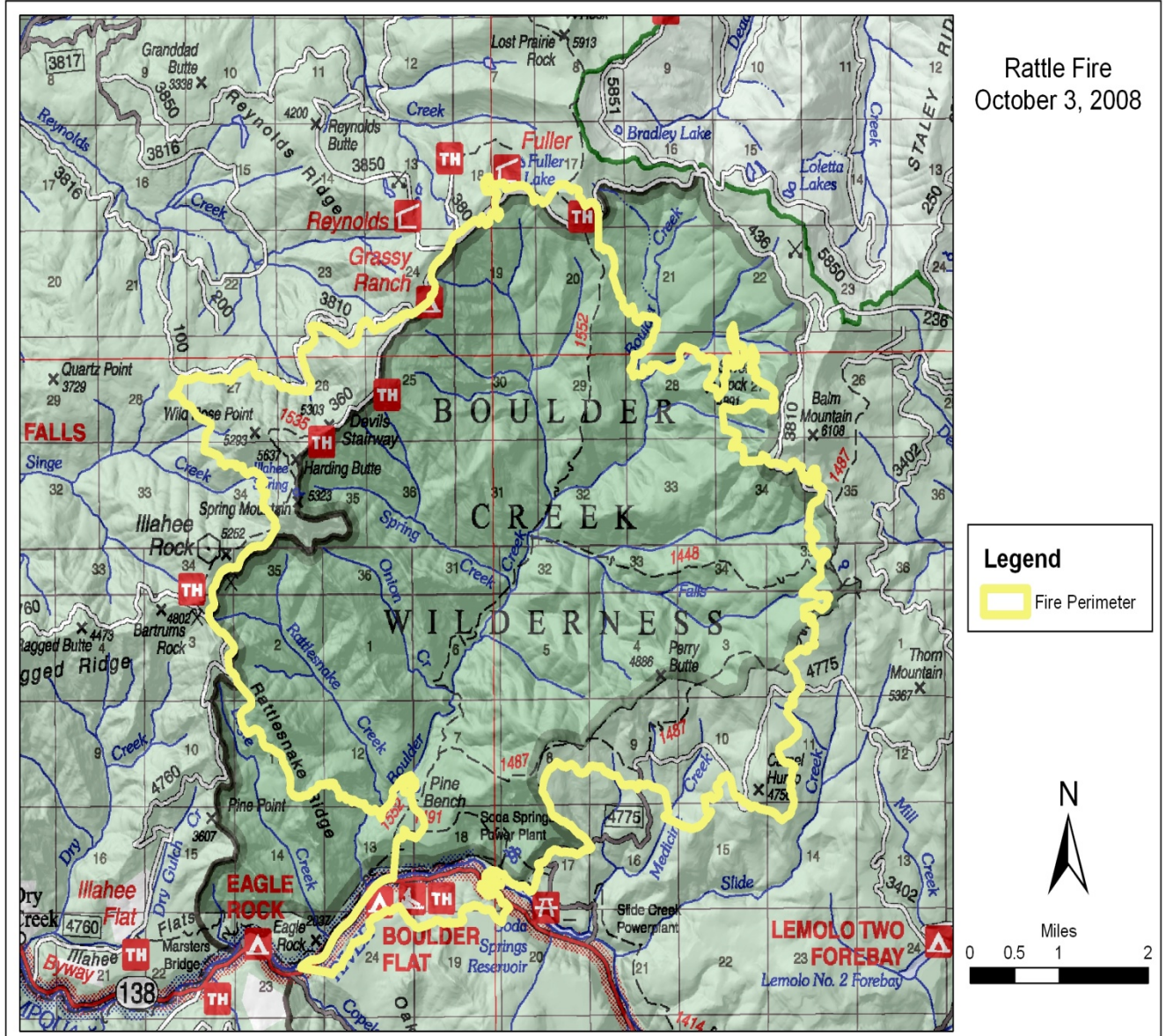
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Figure 1. Rattle Fire Boundary Map



Preface

The Rattle Fire was named after a prominent natural feature in the area, Rattlesnake Ridge, on August 16, 2008. As fires go, the Rattle Fire was not especially large nor permanently devastating. Yet, it took the best efforts of thousands of firefighters and others to control it.

Every wildfire starts with a unique alignment of wind patterns, local terrain, fuel types and humidity cycles. Add two small communities nestled in deep woods on either side of the fire, a two-lane access road to major tourist destinations and hydroelectric power stations on three different streams. Make the backdrop of the fire a wilderness area with steep slopes covered with 12-year-old fire-blackened snags. Throw across this mix over 100 wildfires ignited by lightning. Now, you can grasp the moving parts of the 2008 Rattle Fire.



*“We don’t call it wildfire
for nothing.”
Alexis West, Public
Information Officer*

*Photo by Robert
Cunningham, US Forest
Service*

Approximately 86 percent of the Rattle Fire burned within the Boulder Creek Wilderness. No one lost a home or other structure. PacifiCorp de-energized and restarted several power stations, lost revenue, yet retained all plants and buildings. Twenty-five Dry Creek residents spent several days with no electricity or phones. Toketee and Dry Creek locals endured apprehensive weeks wondering if a shift in wind would cause an evacuation.

Oregon Department of Transportation crews hauled tons of tree and rock debris from a five-mile section of state highway 138. Over 4,000 fire personnel worked the incident from August 16 through November 1. The Rattle Fire was more complicated than many wildfires and less catastrophic than others. By the time it was over, it seemed like a very long fire campaign.

This narrative is a testimonial to the combined efforts of many people and organizations: the communities of Dry Creek, Toketee, and Glide; Oregon Department of Transportation, Douglas Forest Protective Association, PacifiCorp, Oregon Department of Fish and Wildlife, Oregon Department of Forestry, Umpqua National Forest, eight Incident Management Teams, and many firefighters and support staff.

Long after the Rattle Fire finally stopped skunking around and creeping through the Wilderness duff, it will still make sound, but this noise will be an echo of the fire, reminding us that forest time, has its own cadence. This echo reminds us that nature does as it pleases, when it pleases. As much as we plot models of potential fire growth, pound hand line, and drop water from 600-gallon buckets swinging from helicopters, as much as we complain and just plain worry, we are still pawns to Nature's larger plan. We dance to the rhythm of fire, but we don't make the music.

Alexis West, Public Information Officer

CHAPTER 1

Lightning Complex on the Umpqua National Forest

The Beginnings: August 16, 2008

Like most wilderness, Boulder Creek Wilderness is isolated. Unlike the majority of wilderness, it is not next to a mountain peak, but is instead, a steep plunging canyon. Previously burned in 1996 in the Spring Fire, Boulder Creek Wilderness hosts a sea of snags flowing across ridges and down drainages. At the start of the Rattle Fire in 2008, the snags had deteriorated for 12 years and would fall unexpectedly, sometimes teased down by the wind. It is wilderness and the snags stand undisturbed by humans because of Congressional direction.

It was into this upside down, snag-riddled, healing wilderness that Nature hurled a thunderbolt from a summer dry-lightning storm on August 16, 2008. This storm started somewhere around 70 fires and kept fire dispatch and initial attack crews busy and engaged. Firefighters controlled all smokes (including the Forebay Fire threatening a PacifiCorp hydroelectric facility), but two. The remaining two fire starts developed into the Lonesome Complex and the Rattle Fire.



The Rattle was the kind of fire, kindled in thick, closed timber that is eventually put out by a blanket of snow or a wetting rain, a season-ending event.

Photo by Robert Cunningham, US Forest Service

Three Facts about Wilderness

First fact about wilderness: An eighth of the continuous lands of America are preserved in the wilderness system. That's 109 million acres, with two-thirds of that acreage in Alaska and most of the remainder in the west. Of the Umpqua National Forest's 985,980 acres, 72,043 acres are in three wilderness areas.

Second fact about wilderness: By law wilderness designation prevents any use by motorized or wheeled devices: logging equipment, four-wheelers, bikes (pedaled and motor-driven), or wheelchairs. Wilderness is set aside by Congress to be "untrammeled by man". Proponents of wilderness defend its importance, "We simply need that wild country available to us, even if we never do more than drive to its edge and look in." (*Wallace Stegner in 'The Wilderness Letter', written to the Outdoor Recreation Resources Review Commission*)

Third fact about wilderness: The legislation that creates a wilderness not only mandates land use, but also provides strict policy guidelines for fire suppression and rehabilitation. Although firefighting choices may be limited by law, wilderness fires are not just "allowed to burn" without assessment or response found in a wilderness use plan or a long-term fire suppression plan.

Liza Castleberry, Fire Management Officer for the Umpqua National Forest, explains, "Given the full range of suppression options and tools, wilderness tends to limit suppression options. Most present safety challenges such as the Boulder Creek area. They are steep, rocky; contain drainages and chimneys, standing snags, and unmanaged vegetation (*untreated for fuel reduction*). On many wilderness fires, managers must deliberately plan areas where ground resources can make a stand without compromising safety in the terms of life changing events or fatalities."

Often a trail may be used as a fire line with some brushing, but it is not a road. Any hand-constructed line is rehabilitated to prevent scouring and down-slope turbidity in local watersheds. The rehab work also restores the land and allows it to recover at least some of its original qualities and visual value.

In wilderness, firefighters use Minimal Impact Suppression Tactics (MIST). Using MIST techniques, coupled with waivers for helicopters, rappellers, and water drops, firefighters can aggressively fight wildfire in wilderness and, if necessary, rehabilitate lands to retain unspoiled characteristics.



Wilderness is steep and rocky, containing drainages and chimneys, standing snags, and unmanaged vegetation.

Liza Castleberry, Fire Management Officer

Photo by O Alaniz,

Why the fuss? Simply put, once wilderness loses its primal qualities, it is difficult to restore. Restoration takes time, and even more time in wilderness. The laws protecting wilderness ultimately provide that only Nature itself can alter wilderness in dramatic ways. Fire represents one of the biggest and most dramatic ways.



Motorized devices are not generally allowed in Wilderness. Waivers for chainsaws and helicopter bucket work may be granted by the Forest Supervisor. Delivering rappellers to a wilderness fire also requires a waiver because the law states that no aircraft may fly lower than 250 feet above ground level.

Photo by O Alaniz,

This was the NOAA forecast for August 16, both accurate and understated.

...FIRE WEATHER WATCH IN EFFECT FROM SUNDAY MORNING THROUGH SUNDAY EVENING FOR SCATTERED THUNDERSTORMS. . . DISCUSSION. . . ON SUNDAY THERE WILL BE A GREATER THREAT FOR AFTERNOON AND EVENING THUNDERSTORMS. MOISTURE LEVELS WILL BE HIGHER THAN SATURDAY BUT WITH FASTER MOVEMENT STORMS STILL WILL NOT PRODUCE MUCH RAINFALL STORMS WILL MOVE FROM SOUTH TO NORTH...SPOT FORECAST FOR NORTH FORK...USFS NATIONAL WEATHER SERVICE MEDFORD OR 920 PM. PDT SAT AUG 16 2008 <http://spot.nws.noaa.gov>

Christina Clemons was Acting Fire Management Officer at Diamond Lake Ranger District and District Coordinator during the Toketee Lightning Complex. This is her account of the August Lightning Complex. (*Interview, September 28, 2008*)

"The national priority for fire was 'keep it small'. We prepped as best we could for summer. Everyone had already been working long shifts since June, plus around the 4th of July, we geared up for the holiday. The second round of lightning hit one week after the 4th of July. We had at least 10 starts from that storm and we were still reeling from the first storm.

"When we received the August 16 forecast predicting another potential lightning storm, we started ramping up, ordering task force leaders, engines, even some dozers because our fuels were so dry. There was a high probability for large fires and active fire behavior. Our district is in a remote location so we pull in resources in advance. It takes locals half a day to get here and up to three days for others.

"On the 17th the station took a direct hit (lightning). We lost our computers and communication for a while. Everything that could go wrong went wrong. It felt like we were running a race with a busted leg at that point, but with every grueling step, I feel we won.



"On August 16th we knew we were in for a ride - clouds came in and by night, it was looking ominous. The lightning started at dusk. Crews worked until 2 am. The amount of strikes raining down on us was impressive to say the least. It was hot that night-- 103 degrees at midnight. We were seeing five-foot flame lengths. On the North Fork Fire, it was spotting and jumping over us and we had to get out of there, pull out. We realized we needed to turn that one over to a team."
Christina Clemons, Acting fire Management Officer for Diamond Lake Ranger District

Photo by Ian Harper

“More resources started arriving on the 18th. That day we had 20 fire starts. It was overwhelming. We were assigning engines as fast as we could. We had a large influx of resources, we were dealing with the largest lightning bust ever, and the largest Type 3 team in our district's history, 330 people all managed at the district level.

“Resources were being ordered in Central Oregon area also, so it was tough to get people fast enough. Air resources were needed everywhere at the same time. We weren't the priority fire so we didn't get the air ops we wanted. The North Fork was the priority fire at that point. The area was very smoky and we kept getting reports from lookouts, residents, campers, and local agencies at that point. Things were so hectic, that we took advantage of rain on the 19th and ordered a stand down to assess and prioritize fires. It gave crews some time to rest and us a minute to figure out what kind of monster we really had on our hands.

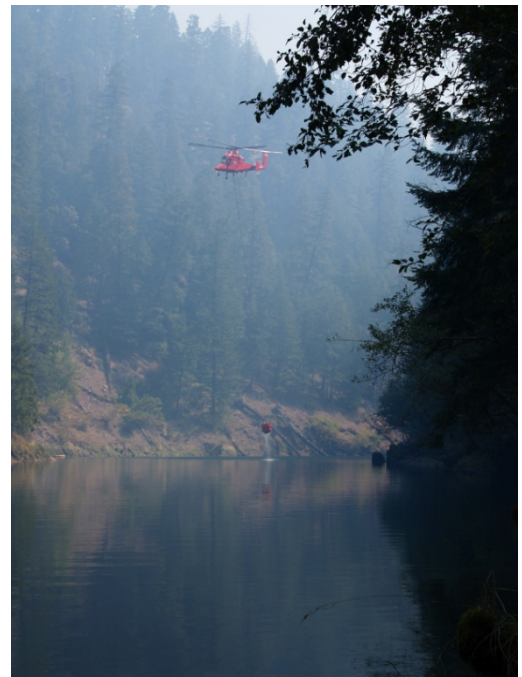
“We found that most of the fires were more than a quarter acre and needed more than one engine per spot fire. (*Editor's note: Typical size for a spotfire in this west side forest is less than a quarter acre.*)

“The day before, on the 18th of August, the Forebay Fire had started to become active. It was within one mile of a PacifiCorp structure and a priority in our district. The Forebay Fire was on a bank of a cliff and really hard to get to. We focused air ops on this fire as it had great potential to become a problem fire with structures threatened.

“At that point, the Rattle Fire was a log burning in the Boulder Creek Wilderness. Then it died down and couldn't be found with air recon flight but it ran on August 23rd. We dropped 98,000 gallons on it. It still escaped IA (initial attack), at which point, Forest Management requested a team and Blue Mountain came in to help. We expected it would be a long-term event like the Spring Fire (1996).

“We had prepared for all this in a number of ways: we ramped up with resources immediately, organized the management into a Type 3. We also have dispatch here in the district, so we know the area. We trained in advance, including staging a mock incident. We also use 'octopus mobilization', a way of staging in various places so the crews can act fast. We have a saying that the best place to fight fires is from across the street.

“We had eyes everywhere. At dispatch, we were overwhelmed getting multiple reports, which we had to sort out. We had so many fires that we re-invented how we track fires. “It was very stressful month in general. Between myself and my dispatcher we lost 28 pounds in a little over a week, because we just didn't have time to eat. I saw my husband two



Kmax dipping into Toketee Lake.

Photo by Robert Cunningham, US Forest Service

times the entire month. (August) We had people sleeping all over the office, wherever they could on the compound.

“On August 22, we called it the Toketee Complex. There were 51 fires at that point. We had had lightning every week to week-and-a-half-since August 6. We had a total of 79 reports of which about 51 were real fires. We caught the Forebay Fire. We caught all of the others but two: the Lonesome Complex (part of the Lonesome spread from the Rogue National Forest onto the Umpqua National Forest) and the Rattle. We had only one injury (in initial attack). I think that's pretty good odds. It was the largest initial attack (IA) on this district, and the largest Type 3 team this district had run. I feel we did a great job, that it was a very successful IA, given the odds. Every one stepped up and kept up strong through the incident.”



On August 23rd, the Rattle Fire blew up.

Photo by Ken Paul, US Forest Service

Robert Cunningham, Fire Management Officer for the Diamond Lake Ranger District, adds the following about the Toketee Lightning Complex:

"It's not unusual for us to have more than one fire at a time on the district. We typically have a lot of lightning, I call it semi-dry lightning. Usually some light rain accompanies the lightning.

“The Rattle Fire started on August 16th, was detected on the 18th, and laid down on the 19th. It had been initially reported as a "log burning in the wilderness," but we couldn't find it when we flew over on the 19th. At that point, the Forebay Fire became a priority fire because it was close to PacifiCorp structures and had potential to get big.

“On the 21st a helicopter recon flight did find the Rattle Fire. Dave Lockwood reported that the fire was 0.3 - 0.5 acre, little activity, and that it was not safe for ground attack. They placed an order for a Type 1 Helicopter and some rappeller crews, but none were available yet.

“By the 21st of August we had around 330 personnel with the Type 3 team. We had four helicopters assigned to the fire: one Type 1, two Type 2, and one Type 3. The helibase was at Toketee Airstrip. We were drawing water from Toketee Reservoir and Lemolo Lake. We had ordered a Type 1 helicopter for Rattle but it wasn't a priority fire yet, and there was competition for air resources, which is not uncommon after a lightning complex passes.

“The 20th or 21st the Rattle was still around one to two acres. There were so many snags in the area we couldn't let crews go close until it cooled down and we could do some felling. We were dropping lots of water on the area to turn it to mud.



Clearance to drop water in Boulder Creek Wilderness came from Forest Supervisor Cliff Dils.

*Photo by JD Schindler
US Forest Service*

“We had secured waivers to use chainsaws, rappellers, and helicopters in the wilderness. We had clearance from the Forest Supervisor Cliff Dils to drop water in the wilderness. Because of the special designation in wilderness, a waiver has to be specific to the fire and specific to the task.



Helitanker dropping water.

Photo by JD Schindler

“We had resources staged to go in as soon as it was safe. You have to be two-and-a-half times the distance from a snag to be safe and there were too many snags in the old burn areas. We had staged a Division Supervisor, two rappeller crews with Type 2 helicopters, and two sets of fallers positioned for a direct attack as soon as it cooled down.

“On August 22, the fire began to pick up and we initiated Type 1 helicopter bucket work in the afternoon. Acreage increased to 5 – 6 acres by nightfall. A division supervisor and ICT 3 were committed to the fire. Dave Lockwood flew the fire with the Stanislaus Hotshot Superintendent late in the day to develop a tactical plan. An order was placed for a second Type 1 Helicopter and more rappeller crews for the next day (August 23). We ordered

additional resources as we needed them. We called neighboring forests and dispatches asking them to send anything they had.

“The Haines Index developed to a level 6 and the fire burned active all night on August 23rd. By morning it grew to 150 – 175 acres. (A fire over 100 acres is designated a large fire and is tracked nationally.) Our Type 3 team had a number of Type 2 unit leaders already, in the event the incident would be assigned to a Type 2. We had already organized the fire into four divisions with 300 personnel and an expanded dispatch. We turned it over to Blue Mountain Type 2 Team on August 23 with a lot of resources in place, ready to go.” (Interview, September 28, 2008)

Robert Batten's Blue Mountain Type 2 Incident Management Team (IMT) established fire camp, Incident Command Post (ICP), and helibase at French Creek Ranch, in a field just east of the Glide bridge on August 23rd (for the North Fork incident). They ordered a "Camp in a Box", a service that brings in small trailers, parks them in a row, sets up the electrical source for heat and AC, and cleans them once a day.

Haines conditions indicate fire growth potential as high lofty instability can carry firebrands and burning embers miles ahead of the fire, causing new fire starts in advance of the fire's head and flanks. This type of fire spread is very dangerous to ground personnel as it's easy to be trapped between the established fire and the new starts.

*Robert Cunningham
Fire Management Officer
Diamond Lake Ranger District*

French Creek Ranch was large enough to handle an increase in personnel and provided a safe helibase close to the Incident Command Post and easy access to fuel (helibase was later moved to French Creek Ranch by the NW IMT). The team set up a weed wash on the exit route from camp to keep noxious weeds out of the high country.

The French Creek ICP and fire camp began to spring out of the dirt like some frontier outpost, with a main street of trailers... it would be the first of many camps.

August 23, 2008

Blue Mountain IMT set up camp and ran the show from August 23 – 31, Rattle Fire acreage was approximately 300 acres with increasing fire behavior and activity, which meant a growing concern for the wildland-urban interface. The community of Toketee sat to the east and southeast of the fire, inhabited by employees of Diamond Lake Ranger District and PacifiCorp. Dry Creek sat to the west of the Rattle Fire perimeter, comprised of some 25 buildings, a country store, and a R.V. Park. Several scattered inholdings were also at stake.

Douglas Forest Protective Association (DFPA) was responsible for protecting private land in the communities of Dry Creek and Toketee and was staged to provide structural engines when notified.



Heavy burning in underbrush.

Photo by Jamie Pickering

Fire immediately threatened PacifiCorp's Soda Springs facilities -- dam structure, penstock, powerhouse and transmission lines -- as were homes where local PacifiCorp employees lived.

The Soda Springs dam provided a close water-dip site for helicopter bucket operations throughout the Rattle Fire. The Soda Springs reservoir contained a continuous flow of river water large enough to allow several large (Type 1) helicopters to remove water at a continuous cycle rate of one load (up to 1200 gallons) every five minutes. Helicopters also used Lemolo Lake as a water source.

Highway 138 is an Oregon state road, maintained by the High Cascade Division of Oregon Department of Transportation (ODOT). ODOT High Cascade Division Manager Dan Metz served as agency contributor. ODOT needed to be notified if any of the communities received evacuation orders or if the fire crossed Highway 138 at any time.

The IMTs held community meetings to involve residents in developing evacuation plans and structure protection plans for Toketee and Dry Creek. The plans included a way to move the community systematically and safely, and clarified a call-down list to maximize timely evacuation of residents should the fire advance westward toward the community.

These plans were collaboratively written by representatives from the IMT, ODOT, Douglas County Sheriff, American Red Cross, and community residents. Fire managers were to advise the Sheriff's Office of fire movement, behavior, and predicted growth, but actual evacuations were conducted with the decision and direction of the Douglas County Sheriff's Office.

The primary strategy for Blue Mountain IMT was to keep the Rattle Fire within the Boulder Creek Wilderness. The Helibase was active with ten aircraft assigned to the North Fork Complex, which included the Rattle Fire at that point, three Type 1 helicopters, four Type 2 helicopters (2 with rappeller crews), and three Type 3 helicopters.



Fire making a run up a ridge.

Photo by Mark Hidson

The Team knew about three archeological sites listed in jeopardy of the Rattle Fire, two of them near Pine Bench, a place still thick with ceanothus and other heavy brush.

CHAPTER 2

The Rattle Fire Lays Down: August 30, 2008

August 30, 2008

The Northwest Type 2 Incident Management Team (NW IMT) led by Carl West arrived on August 30 to relieve the Blue Mountain IMT, settling at the French Creek Ranch Command Post. The fully contained North Fork Fire was to be turned back to the North Umpqua Ranger District the following day to manage mop-up. NW IMT was arriving for a “shadow day” with the Blue Mountain IMT so the exiting team could bring the incoming team up to speed for an entire shift before turning over command. The Rattle Fire was now on the National Situation Report of large (100 or more acres) fires and the primary focus for NW IMT. They would also handle initial attack for areas near the fire within the Umpqua National Forest.

The Eastern Area Fire Use Management Team (Team) led by Barbara Bonefeld completed a long-term suppression plan for the Rattle Fire and presented the plan at the team closeout meeting. Modeling predicted climatic conditions, fire behavior and expected rate and direction of spread. The Team estimated that fire management might continue through the month of September at a cost of approximately \$3.2 to \$4.1 million dollars. The Team also recommended a short Type 2 or strong Type 3 Management Team to handle the fire.

Incident Management Teams

Incident Management Teams (IMTs) are part of the **Incident Command System**, used for management of wildland fires and other emergencies through the National Interagency Incident Management System.

Wildland fires are typed by complexity from **Type 5** to **Type 1** (less to most complex) using a formal **Incident Complexity Analysis**. Once typed, the fire is assigned an IMT with appropriate staffing and resources. Fire suppression efforts remain within the scope of the IMT organization in command. The IMT and agency administrators continually perform Incident Complexity Analyses to insure that the appropriate level of Incident Management is in place or justify transfer of the incident to either a higher or lower Type IMT.

All Teams are led by an **Incident Commander**. Type 1 and 2 teams will have Command Staff (Safety Officer and Information Officer) and General Staff (Operations, Planning, Logistics, and Finance Section Chiefs). Incident Commanders and other staff are trained appropriate for their level with adequate experience at the less complex levels.

Types 4 and 5 IMTs can operate without Command or General staff. These teams are usually staffed at the administrative unit of the fire with local employees. Incidents are generally small and of short duration, often finished in a day or two.

A Type 3 IMT can be either an ad hoc or pre-established team, not necessarily staffed by the local unit. A 'short' Type 3 team may not fill all command and general staff positions. Their resources may be organized into divisions, include minimal air operations, and operate out of a base camp and several staging areas.

Type 1 and 2 IMTs are pre-established teams with the command and general staff positions activated. An Incident Command Post (ICP), base camps, and multiple staging areas are established, and there may be complex aviation operations involving multiple aircraft. They command many engine crews, hand crews and aerial resources. There can be as many as 200-500 firefighters under a Type 2 IMT, and well over 500 for Type 1 incidents.



An area of the Rattle Fire that burned intensely, leaving hazardous snags.

Photo by Oscar Alaniz

NW IMT assumed command at 0600 on August 31. The Rattle Fire still burned within the Boulder Creek Wilderness boundary. Major safety hazards listed in the transition document included steep terrain, falling rock, and snags for all divisions. Mineshafts posed a special hazard, and poison oak was everywhere. Rattlesnakes, bees, and scorpions filled out the list of dangers. The snags were the most serious of the mix, making direct ground attack on the fire impossible without sawyer crews clearing an area first.

Safety is the primary consideration in fire management where the work is intrinsically hazardous. Boulder Creek Wilderness displayed extreme snag hazards. Remnants of the 1996 Spring Fire, decomposing snags could fall without warning without apparent cause. One faller stated he might fall one tree and then other(s) would fall from the vibration. The death of a young firefighter due to a falling snag (Panther Fire, Shasta Trinity National Forest, CA, 2008) served as a fresh reminder of the danger to faller crews and firefighters.



Faller dropping a burned-out snag

photo by Matt Broyles

With ground attack limited by the snag hazard, air operations became increasingly active. On NW IMT's first full day of command, the Type 1 helicopter dropped water along the edges of the fire to cool the fuels ahead of the advancing heat. Elsewhere, a new start named the Mule Fire required the attention of a team of rappeller-firefighters. From Monday through Thursday, heavy air operations poured thousands of gallons of water on the Rattle Fire's hot spots. PacifiCorp's reservoirs located near Lemolo and Soda Springs provided continuous water sources allowing rapid turnaround times for the choppers.

As fire activity decreased toward the end of the week, NW IMT air operations were able to reduce the number of aircraft to a single Type 3 and two heavy Type 1 helicopters.



A Type 3 helicopter with rappel lines out.

Photo by Oscar Alaniz

Throughout an assignment, an ITM continuously assess the situation to make sure the proper management and resources are in place. As the weekend approached, leaders discussed about whether to keep NW IMT through the weekend or release them on Friday morning. The fire had lain down for several days, and fire behavior and severity indices reached low levels. With the Rattle Fire skunking around in the Wilderness, and hardly any smoke, communities were losing interest. Ramping down seemed logical and resources could be demobilized to reduce costs. The decision came down from Forest Supervisor Cliff Dils to return to a Type 3 team with people having many Type 2 qualifications.

NW IMT released command at 0600 on September 5, 2008. There were 223 personnel staffed for the transition. The Rattle Fire, although zero percent contained at 1,010 acres, was still within the wilderness boundary.....but not for long.

*Politics and weather are always local.
Anonymous*

CHAPTER 3

Fire Jumps Highway 138 - Day of the Devil: September 5, 2008

Friday, September 5, 2008

As the demobilized NW IMT members dispersed across Oregon, the mobile camp prepared to leave French Creek Ranch and haul up highway 138 to their new location at Sand Shed. The newly formed Type 3 IMT had begun setting up in the conference room at Toketee Ranger Station just as everything was about to change. An unfortunate alignment of wind, topography, and high dry temperatures came together late Friday afternoon. The Rattle Fire blew up Friday afternoon, just hours after the NW IMT left fire camp.

“We utilize long-term analysis, professional judgment of seasoned teams, predicted fire weather, and predicted fire behavior every time we transition,” said Dils. “Hindsight is 20-20. The Rattle Fire would have increased with either a Type 2 or 3 team because of the extreme fire behavior. Going from a Type 2 to Type 3 was done thoughtfully, based on predicted weather and fire behavior.”

The fire spotted across Boulder Creek and burned into the ceanothus brush wrapping Pine Bench. The unstable atmosphere drew the smoke up into a formidable column, mesmerizing

to watch. This column was sheared by northwest winds, collapsing and sending embers to the south and southwest. Many embers landed south of highway 138, starting a number of spot fires. Dramatic fire activity erupted to the south of Boulder Flat Campground and east of Eagle Rock. Fire personnel watched the column with apprehension. Would the NW IMT be asked to turn around and come back, or would a new Type 2 IMT be called? The mobile camp prepared for another move to a new ICP down the mountain, destination as yet unknown.

The Rattle Fire had grown from 1,010 to 1,750 acres, but more importantly the fire had spread out of the wilderness and across Highway 138. ODOT and PacifiCorp were notified; some hydroelectric substations shut down. Without notification Dry Creek residents lost power and waited in the dark until the following morning.

Umpqua Fire Dispatch ordered a Type 2 IMT from the Geographic Area Coordination Center (GACC). Word came back that the Type 2 Oregon-California (ORCA) IMT led by Ken Paul would arrive Saturday to shadow the Type 3 IMT and assume command Sunday morning.

Saturday, September 6, 2008

Visible for miles, Saturday's column rekindled public interest and concern. Informal daily briefings were resumed at the Dry Creek Store and in front of the Toketee Ranger Station. Media interest rekindled as well.



Fire Plume – photo by Bill Coates

Spot fires sent snags, fire-weakened trees, and rocks sliding down the precipitous slopes on to Highway 138. ODOT intermittently closed the highway throughout the day, and later closed it to all except fire and emergency vehicles between mileposts 49 and 59 (Dry Creek to Toketee Falls). ODOT's High Cascade Division Manager Dan Metz used flaggers to control traffic as fire crews worked with fallers to remove hazard trees close to the highway. Saturday's operations focused on keeping the fire from moving east toward Dry Creek; crews

laid hoses out from forest road 4760, the western contingency line. Additional night shift crews staged for structure protection at Soda Springs.

The fire area south of Highway 138, out of the Boulder Creek Wilderness, was very steep and crews found building handline difficult. Bulldozers scraped fire line outside of the Wilderness area.

PacifiCorp closed down sections of powerline for several days to allow firefighters to safely work in close proximity to the lines. Without electricity for three days, during this time (September 6–9), Dry Creek Residents relied on home generators for electricity.

No structures had been lost or damaged, but the potential for fire spread was high. The Type 3 IMT turned over command with 190 total personnel, 4 helicopters, 4 engines and 3 watertenders, with urgent requests for more resources.



Rattle smoke column as seen from a staging area

photo by Ian Harper

Sunday-Tuesday, September 7-9, 2008

The Rattle Fire had grown to 2,236 acres. The ORCA Type 2 IMT increased resource orders and, anticipating a need for a larger fire camp, moved the ICP/Fire Camp from the Toketee Sand Shed to Toketee Airstrip, which is closer to Toketee Ranger Station.

Fire activity remained high through Monday, September 8, and most of the additional acreage was in the Boulder Creek Wilderness due to burnout operations (see appendix on Burnout operations). On Monday, administrators cancelled school for students in Toketee due to road closure and safety concerns. By Tuesday, September 9, the Rattle Fire had spread north and northwest in the Boulder Creek Wilderness, and increased to 3,272 acres. There were 466 firefighters and 8 helicopters fighting the fire. On a positive note, the school had reopened and power restored to the community of Dry Creek.

Wednesday, September 10, 2008

Snags continued to concern the ORCA IMT. On Wednesday, a firefighter was injured while performing hazard tree removal. A report issued at 7:18 p.m. by Bryan Wilkes, ORCA IMT Safety Officer, stated that, “the sawyer had just completed falling a snag 24-30 inches in diameter and was in the area of the stump when a snag 8 inches in diameter, approximately 40 feet on the interior of the fire, fell perpendicular to the fireline, striking the sawyer on the head. The sawyer was unconscious for a short time and was treated on scene prior to being airlifted by an incident helicopter to the Roseburg Airport.” Taken by ground ambulance to a Roseburg hospital and admitted for treatment. After spending several nights in the hospital, the firefighter was eventually released and returned home.

Friday September 12, 2008

ORCA IMT established two branches with seven divisions and ordered one structure group. Day and night shifts were operational, with a swing shift for burning operations from midnight to 2 a.m. As with previous teams, ORCA IMT planned to keep the fire as much as possible in the Boulder Creek Wilderness; south of the 3810 road at the north end of the wilderness, north and east of road 28 along Copeland Creek south of Highway 138, and west of Slide Creek Road.

Fire suppression efforts continued to strengthen firelines on the western and southwestern perimeter to protect the Dry Creek community, on the eastern and southeastern perimeter to protect Toketee, and worked to stop the advance of fire south of Highway 138. Air tankers dropped retardant to halt any spread to the west from Rattlesnake Ridge; the skies above Dry Creek were crowded with tanker and helicopter activity. For safety and operational effectiveness Air Attack, in a fixed wing aircraft well overhead, supervises all of the air resources working on the incident.

ODOT closed Highway 138 to all vehicles, including fire traffic. Dan Metz, High Cascade Division Manager for ODOT, described Highway 138 as “self destructive”. “From milepost 28 – 60, it’s generally problematic, especially in winter. Snow and runoff nudges dead trees of a variety of diameters, rocks and boulders of various weights and dimensions to tumble onto Highway 138 along the Umpqua River,” said Metz.

The closure of Highway 138 between mileposts 49 and 59 remained for 16 days, the longest closure Metz remembers. Metz advised that photos of the debris documented the slides and hazards very well for concerned citizens. “I had good support from the public affected by this closure. They could see the nature of the problem.”



Large logs littered the debris zone on Highway 138.

photo by Dan Metz

ODOT crews cleared up the massive slide that kept even fire vehicles off Highway 138. They worked for 30 hours to haul 2,100 cubic yards of woody debris and 1,500 cubic yards of rocks and soil, approximately 140 truck loads (a loader has a capacity for 10 – 12 cubic yards of material). The work zone resembled a life-sized Tonka Toy event with two excavators, two front-end loaders, two graders, five 20-yard end dump trucks, six 10-yard dump trucks, and six self-loading log trucks.

Metz hails from a logging family and shared that when he saw some of the good timber that came down in the slide, he called Derek Ibarguen, Acting Ranger at Diamond Lake Ranger District. Ibarguen and Steve Nelson, Contracting Officer for the Umpqua National Forest, worked out an emergency logging sale contract in less than 48 hours from the Forest list of contractors and sold six loads of 4.5- to 6-foot-diameter trees. “I hated to see those good trees go to waste,” Metz smiled.

IMT selected the 3701 road as an alternate route for fire personnel, with a speed limit of 15 mph. Operationally, there were few choices but at least the crews could keep moving. The alternate route was also accessible to residents of Toketee community with a pass from the district. Route 3701 is a narrow, thin gravel road, about one and a half lanes wide with occasional turnouts, and added 45 minutes to any destination. There was no room on the 3701 for sightseers.

With the closure, the Dry Creek Store became the primary source of supplies for firefighters and besieged motorists. Resort lodges to the east were negatively impacted by the long, alternate routes required to drive to Lemolo Lake, Diamond Lake, and Crater Lake. Even businesses downriver lost customers as word got out that Highway 138 was closed. Local loggers were hampered by the road closure. The closure also affected fire-fighting traffic. For approximately 15 days, the 3201 road was the primary route from the fireline to Rattle Fire ICP/Fire Camp at Toketee Airstrip. Speeds were monitored and as one Incident Commander put it in morning briefing. “I watched traffic myself yesterday and I took down the numbers of rigs going too fast.” A hotshot crew carrier or watertender consumed nearly every inch of road width, so road safety was a real concern.

September 16th, Tuesday

Heat and winds hit again on Tuesday with plume-dominated activity. Fire behavior was extreme and an additional 4,100 acres burned, predominantly in Wilderness, for a total 11,207 acres. The fire incident website 'inciweb' (www.inciweb.org) report for Tuesday cited a column over 36,000 feet high with spotting two miles ahead. A spot fire escaped across the southeast contingency line along Medicine Creek drainage prompting a voluntary evacuation (Level 3) notice for two houses in the Slide Creek area northwest of Toketee. The Sheriff lifted the evacuation notice on September 18th. The southern firelines held fast despite the erratic fire behavior.

The ORCA IMT established the November Spike Camp, located at Johnson Camp, up Steamboat Creek, so that staff could be staged closer to the community and the western perimeter of the fire. About 100 firefighters camped at this location, taking their meals at Steamboat Inn.

Cooler temperatures brought more stability on subsequent days; however, Highway 138 remained closed. Clearing of the debris continued through the week with ODOT and fire crews working long shifts. ODOT had not announced a date for reopening the highway. On Friday, Slide Creek residents returned home. No damage or structure loss had occurred there. Through ORCA IMT's good management, the southern perimeter had held. The fire grew primarily in the Boulder Creek Wilderness, with slight spread to the east and southeast.

September 20, Saturday

ORCA IMT's two-week fire assignment ended. Wildfire complexity analysis showed the need for a Type 1 Incident Management Team. Chris Hoff's PNW Type 1 IMT arrived and shadowed ORCA IMT on Friday, assuming command on Saturday, September 20.

The Rattle Fire had burned 15,772 acres and was now 28 percent contained. PNW IMT ordered additional resources to add to ORCA IMT's remaining 1,086 firefighters. ICP/Fire camp remained at Toketee Airstrip, with eight helicopters staged there and two more helicopters staged at Glide Helibase.

Snag hazards and extreme terrain still limited direct ground attack. Air operations remained critically important for all stages of fighting the Rattle Fire with water drops cooling hotspots before ground crews moved in for direct attack. Extensive bucket work held the perimeter fast in many areas, aiding ground-based firefighters by slowing fire movement. Helicopters used millions of gallons of water. Under ORCA IMT management alone, helicopters dropped over 2.1 million gallons of water on the Rattle Fire. Single-engine air tankers (SEATs) also made an enormous impact using retardant drops near structures and in advance of fire growth.

Helicopters



Type 3: Bell 206L4 LongRanger
Photo: Laura Mayer

Helitack refers to “helicopter-delivered fire resources”, which includes both firefighters, equipment and water drops. Helitack missions are flown from **helibases** where helicopters are located and maintained. Early in the fire, the helibase was located at French Creek Ranch. Later, the Rattle Fire’s main helibase was at Toketee Airstrip with a second helibase located at Glide for a short period of time. **Helispots** are temporary locations near the incident where helicopters can take off and land to deliver personnel and supplies. **Drop**



Type 1: Sikorsky S-64 Sycrane
Photo: Rob McKenzie



Type 1: Sikorsky S-70A Firehawk
Photo: Teri Cairns

points are locations where supplies can be dropped, often by longline.

There are three Types of helicopters used in firefighting, based on

payload lifting capability. A **Type 3** helicopter is the lightest duty, with a minimum payload capacity of 1200 pounds (See Table) at standard conditions*. **Type 2** helicopters must have a payload capacity of 2500 pounds, and **Type 1** helicopters have a payload capacity of 5000 pounds. Type 1 helicopters are the workhorses of water delivery and come in a variety of shapes and sizes, although all are large and attention-grabbing



Type 2: Bell 212
Photo: Air_Ops (unknown author)



Type 1: Sikorsky S-61
Photo: Lisa Pansolet

Type	1	2	3
Allowable Payload	5000 lbs.	2500 lbs	1200 lbs.
Passengers Seats	15 or more	9 - 14	4 - 8
Retardant/Water Capacity (gals)	700 gals.	300 gals.	100 gals.
Max Takeoff/Land Wt.	12,501+ lbs.	6,000-12,500 lbs.	less than 6,000 lbs.



Type 1: Boeing Vertol 107
Photo: Teri Cairns



Type 1: Kaman K-1200 K-Max
Photo: Rusty Bachman

* Standard conditions are 59 degrees Fahrenheit at sea level.

Ground crews used burnouts to remove interior fuel islands in a controlled and calculated way to reduce spotting and prevent fire growth outside of the Wilderness boundary. From September 21 to 24, the weather became moderate to cool aiding firefighters in completing burnouts and start mop-up operations.

ODOT announced that Highway 138 would open on Monday, September 22. The Rattle Fire stayed at 28 percent contained, although it had increased to 16,256 acres.

September 24, Wednesday

The Douglas County Sheriff's Office lifted voluntary evacuation for Dry Creek, Slide Creek, Toketee School, and PacifiCorp Control Center.

September 25, Thursday

Higher temperatures and increased winds caused an increase in fire activity in the north. Incident Commander Chris Hoff said, "The fire did a lot of good yesterday consuming the heavy fuel load that is currently in the Wilderness." Glide Helibase closed down, with the Toketee Airstrip/Helibase remaining as the operational base. Much of the fire perimeter was in mop-up or rehabilitation preparation. The fire burned 17,552 acres and was 58 percent contained. Personnel numbers declined to 808.

Safety continued to challenge operations as a firefighter suffered a leg burn during mop up from stepping into a stump hole. He was treated in Roseburg and released from the fire. He was expected to fully recover.

The Umpqua National Forest lifted public use restrictions on the forest. Weather turned cool on Friday, September 25th, but heated up again on the 27th, causing more fire activity in the north. Crews prepped a contingency line for a possible burnout in case the fire made a run at the northern Boulder Creek Wilderness boundary. Instead the fire moved to the south and firefighters stopped it.

CHAPTER 4

Into the Fall: September 27-28, 2008

Saturday, September 27 and Sunday, September 28, 2008

A Type 3 IMT led by Incident Commander Jim Valentine, shadowed Chris Hoff's PNW Type 1 IMT and assumed command on Sunday. The fire had reached 18,078 acres and was 62 percent contained. Three helicopters and 654 firefighters remained through the transition to the new team. The ICP was at Toketee Ranger Station, but logistics were complicated. On the east flank the crews slept and showered at the Toketee Sand Shed fire camp, drove to Diamond Lake Lodge for meals (*the usual sack lunches were prepared for midday by the lodge or Lemolo Resort*), and then drove to various drop points to start shift. Crews on the west flank slept at November Spike Camp up Steamboat Creek, ate meals at Steamboat Inn, and then started shift. Helibase remained at Toketee Airstrip for the three helicopters assigned to the fire. The Temporary Flight Restriction was lifted and Toketee Airstrip was opened for civilian access, with helicopters mooring at the north end, at the site of the previous fire camp.

Monday, September 29, 2008

A journal entry on September 29, 2008, by an anonymous fire staff at Diamond Lake Ranger District:

“Dejavu? We hope not. It’s Monday. Another Type 3 Team is setup ... The fire camp is back at Sand Shed, we’re driving to the Lodge for meals... Hot and dry weather is predicted with a Fire Weather Watch in a couple days. Same as September 5, the last time the Rattle jumped 138 out of Boulder Creek weeks ago... The crystal ball is cloudy.”

The Type 1 Team and Forest employees were comfortable with command going to a Type 3 organization that included Type 2 resources.

The fire weather forecast called for continued warming and drying, with a Fire Weather Watch. It seemed that every time a Type 3 IMT was assigned to the Rattle Fire, the fire weather would worsen. This time, however, much of the active fire had been reduced and most of the interior island fuels were charred and black. The Type 3 IMT began large demobilization of resources reducing to 414 personnel by the end of Monday's shift. But the fire had plenty of life in it. A two-acre hotspot jumped out of the Boulder Creek Wilderness, north of the 3810 road, creating cause for concern. The Rattle Fire had increased modestly to 18,390 acres, and was still only 65 percent contained. October 15 was optimistically, given as the estimated date for total containment.

Tuesday, September 30, 2008.

Helicopters worked the north and west flanks where fire activity had increased on Monday. The spotfire north of the 3810 road was increasing in size, and some of the fuel islands in the north part of Boulder Creek Wilderness remained active. Preparations for a possible burnout along Bulldog Trail 1534 and the 5851 road to reduce fuels near the advancing spotfire were initiated. In other areas of the Rattle Fire, crews continued to mop-up and start rehabilitation of the burned areas. It was slow and tedious, but necessary work.

The incident was still dangerous. Snags continued to be a serious concern. A night crew member reflects on an incident that happened as they were doing a backburn on road 4775, "I was talking to Brett [night crew leader].... Brett had just gone around the next corner when Jose yelled 'Tree, Amigo!' I started downhill when the tree rotated direction and I had to jump back. A 28/29 inch [diameter] cedar hit the ground 2 feet from where I was standing, right where Brett's pickup had been. They talk about night shift being dangerous, but snags fall in the daylight too. Either way, if you're in the way you're toast."

Thursday, October 1, 2008

Light rain moderated fire behavior, allowing firefighters to aggressively attack the spotfire that had been increasing in size. Fire Operations used the 5851 road on the Willamette National Forest as a control line for the stubborn spotfire. The slow drudgery of mop up and patrolling fireline continued, mile by mile, as did the rehabilitation work along the firelines removing downed, burned trees and debris with chippers and masticators.

Residents and recreationists casting flies in their favorite North Umpqua fishing holes especially noticed the lines of firefighting vehicles heading out of the high country on Highway 138. Some stopped at the Dry Creek Store for a last power drink or snack. The November Spike camp, nine miles up Steamboat Creek Road, was closed and the remaining crews drove up the highway to relocate at the Toketee Sand Shed camp.

Friday, October 2, 2008

By Friday, the rain that had begun on Tuesday had accumulated to a quarter of an inch, recorded at a remote automated weather station within Boulder Creek Wilderness. There was enough rain to begin the backhauling of hose, removing couplings, pumps and miscellaneous fire suppression equipment from the fireline. Trucks were muddy and the rain was cold. The Industrial Fire Precaution Level was reduced to the lowest level. The fire danger level on the roadside fire prevention signs read 'Moderate'. More crews left the area, their vehicles driving in convoys west on Highway 138 on their way to Roseburg, I-5, and home.

Sunday, October 4, 2008

The Rattle Fire was 19,775 acres and 90 percent contained. The Type 3 IMT wrapped up the last few details of the final week, completed fireline rehabilitation and gave what remained of the Rattle Fire back to the Umpqua National Forest. The final camp hosted 170 firefighters and one helicopter, supported by five engines, and four watertenders.

Wednesday, October 7, 2008

A postcard dropped into the box at the Idleyld Post Office read “*End of Rattle Fire. Crew heading home. See you before this postcard arrives.*” Dog-eared with grime on the edges, it was written while the sender was in line waiting to be ‘demobed’ [let go]. Someone had donated stamped postcards to the firefighters and this firefighter thought it a good thing to send off, even as the fire breathed its last.

Rest and Recovery

Before the heat of the fire had left the ground, resource specialists on a Burned Area Emergency Response (BAER) team started assessing the damage and potential for further harm to the ecosystems, infrastructure and human safety. Early October found soil scientists, hydrologists, botanists, biologists, archeologists and engineers determining the needs to quickly mitigate the damage done by the fire. Soils generated primary concern with experts analyzing the ability of the soils to withstand erosion and flooding that would threaten people and roads when autumn and winter rains arrived. Another major concern was the possibility of burned trees, with their root systems destroyed, falling or rolling onto roadways creating safety hazards, especially on Highway 138.

The BAER team found that of nearly 20,000 acres burned in the Rattle Fire, only 350 acres were a high-severity burn, while nearly 80 percent were a low-severity burn. Soil erosion hazard ratings, which indicate loss of soil productivity and possible damage to streams and rivers, placed 593 acres at high risk and the rest of the burned area nearly evenly split between low and moderate risk. Two-thirds of the fire occurred in the Boulder Creek Wilderness. Using suppression funds, 37 miles of fire line were water-barraged in the Rattle Fire. Erosion control included handlines in the Boulder Creek Wilderness.

There were approximately 26 miles of road within the Rattle Fire perimeter including 3.0 miles of Highway 138. Debris slides could include fallen trees, branches, rocks and soil; and could easily lead to clogged roads, ditches and culverts. Felled trees on steep slopes above the highway threatened traffic below; burned trees that had not yet fallen posed a hazard to travelers and forest workers.



*ODOT removing trees
from Highway 138 with a
trackhoe*

Photo by Dan Metz

Road cleanup and BAER implementation began in October, starting at the higher elevations in order to beat the snow. Detailed planning for hazard tree removal was completed in late November, and removal of hazard trees started in early December. Only a short time passed before snow arrived and work had to be halted for several weeks for safety concerns of falling trees on steep snow-covered slopes.

As the weather improved in early January, crews worked hard on the hazard trees. They finished removing hazardous trees along the highway in February, and continued hauling slash and debris from the roadways into early March. Approximately 455 loads of slash were hauled to a nearby location. Piles of logs and slash remained in decks and along some forest roads for later sales as: salvage, bio-fuel, firewood, or used as in-stream fish habitat restoration logs.

Forest Service officials selected helicopter yarding sites for fallen trees as the most effective and safest way of dealing with hazard tree removal. District logging, erosion specialists and engineers worked with helicopter yarding crews to select the unstable felled trees, leaving trees that lay crosslope, stabilized by standing trees and stumps. Woody material within the stream channels was left on site to reduce erosion and sediment input to the North Umpqua River. Helicopter costs were saved by stacking logs along roads and hauling by truck rather than flying to a distant helicopter landing.

Work remains as part of the BAER effort. Cleanup of a minor amount of debris/slash and removal of logs from the hazard tree removal area remains, after the wood and biomass is sold. A small number of hazard trees line forest roads. Specialists will reassess and monitor the soils and stream banks, after the snow melts and spring rains rehydrate the burned areas. Noxious weeds may find opportunity to invade bare ground where native may vegetation was removed by fire. Monitoring and removal of invasive plants will continue for at least three years.

Salvage Opportunities

After the Rattle Fire died down, speculation began on the opportunity to salvage the burned timber. In a county historically dependent on the timber industry, an occasion to harvest burned material was seen as an economic boost to the area. However, a sluggish national economy and a falling housing market created a low demand for timber products resulting in low timber prices. Logs could barely be sold for the cost of harvesting them. The amount available for salvage was small, considering the 19,775 acres burned in the Rattle Fire. The dead, burned trees will become fuel for future fires and a hazard to firefighters.

Nearly 16,000 acres (81 percent) of the Rattle Fire occurred in areas with wilderness designation, where no salvage is allowed. Another 3,360 acres (17 percent) is in Late Successional Reserves, riparian and critical habitat areas with salvage restrictions, where restoration and other objectives other than timber value are the criteria for allowing salvage. Less than 90 acres (2 percent) of the burned area meets readily allowable salvage criteria, with only a fraction of that in timber of marketable size, and not all of that ‘salvage’ material.

With such a small amount of salvageable timber available and the costs of harvesting are high for such a scale. A salvage harvest would not have been economical even in favorable market conditions.

“Salvage was one of the things we knew would be a concern to industry, and is primary in this community,” said Forest Supervisor Cliff Dils. “We got a cross section of those folks and took them out there and showed them what we had. We talked about the likelihood of it getting through the environmental analysis process while there was still some value there. And if we did that, we would be trading off work on green sales.”

Local timber industry representatives later agreed with Forest Service officials that such salvage would not be cost effective. The only salvage timber would be that cut down for safety reasons during hazard tree removal.

CHAPTER 5

Epilogue- Lessons Learned

The Rattle Fire started as a single tree burning in the Boulder Creek Wilderness, barely noticeable against the backdrop of all the other fire starts from the lightning storm and staffed incidents already under attack by firefighters. Six weeks later it was nearly 20,000 acres and taxed the resources and patience of the firefighters and local communities that lived with it.

The Rattle Fire took seven weeks and approximately \$23 million to control. It burned 19,775 acres. At its height there were over 1,000 firefighters working on the line, 11 helicopters flying in the air, and many more engines and water tenders chasing the flames. Highway 138 was closed for more than two weeks as falling trees, rocks and other debris made travel hazardous. Tourist destinations at Lemolo Lake and Diamond Lake lost business with the closure, and residents in the communities of Toketee and Dry Creek suffered power losses and evacuation scares as the fires pressed close to their homes.

Perceptions and opinions vary among the public and forest community about how the fire was managed, why it cost so much, took so long to contain and how it affected relationships between the Forest Service and its neighbors.

Fire Control

Local citizens and other fire managers criticized how the fire suppression effort was initiated, managed, and subsequently how the area was cleaned. While some of that criticism may have a valid foundation, others are based on rumor, misinformation and speculation. One rumor suggested that firefighters drove right past the start of the Rattle Fire; willing to ignore it as inconsequential.

Forest Supervisor Cliff Dils shares his favorite statement of how the truth gets stretched. “I’ve had people tell me that when this fire started, firefighters in an engine drove right next to it, and said ‘Oh, we’ll just let it get bigger, we’ll just let it grow. It’s not that big a deal.’ That’s just not true.”

“So people hear that story and then think the Forest Service spent \$23 million dollars and they’re asking what the heck is wrong with us. A number of people said they could have kept this fire small if the Forest Service would have let them fight it. Perhaps, yet even with all our safety precautions, we still had a tree hit a firefighter, putting him in the hospital,” said Dils. Official Forest Service policy states that all fires are fought aggressively; keeping the fire as small as possible, while always ensuring the highest priority is public and firefighter safety.

“We’ve got 30 to 40 fires burning on this forest, we’re trying to keep them all small, that is our objective,” said Dils. “Some of them have easier access and some of them have tougher access. But you have to get in there safely in order to hit them aggressively. Even in a wilderness, you don’t sit back and let fires burn uncontrollably.”

“The primary reason we were fighting the Rattle Fire indirectly in the Boulder Creek Wilderness is safety, which was our decision from the beginning,” said Cliff. “It was unsafe to put people in an area full of dead, standing snags. We felt that if we went direct against the fire, we were going to get someone seriously injured or killed.”

Some people believed the fire should have been monitored and allowed to burn within and outside of the Boulder Creek Wilderness. “People thought we shouldn’t have done any suppression. I’ve had them say ‘you should have just let it burn’, and it would have been okay if it burned outside the wilderness,” Cliff Dils shakes his head. “That is one of the perspectives I consider when deciding how to fight a fire. People and their structures and improvements are part of the environment that I consider.”

Wildfires are allowed to burn in wilderness areas if a Fire Use Plan is in place. Under a strategy called “wildland fire use for resource benefits” (WFU), a Fire Use Plan can be part of a Forest’s Management Plan, and allow a fire, under specific conditions, to be allowed to burn, under supervision, as part of the ecological process. There is no Fire Use Plan for the Umpqua National Forest.

A decision, later criticized, concerned switching from a Type 2 to a Type 3 IMT on September 5th, just before the fire unexpectedly blew up. Even those who thought a Type 2 IMT should have stayed in place, were unsure if they could have stopped the fire, given the extreme change in conditions. Part of the difficulty of dealing with the fire was that it blew up when teams were in transition instead of having a team solidly in place.

“Anytime you switch out a team, you lose part of the focus and capability of fighting the fire; you’re putting more energy into logistics,” said Dils. “But on those extreme days of fire behavior, it may not make any difference what team or resources you have in place. The fire will burn where it wants to.”

Joe Linn, Natural Resources and Fire Staff Officer on the Umpqua National Forest, reflects, “In hindsight, I would have kept the team in place... not that they would have necessarily caught the fire. The Type 2 team had their aviation, their ground support and a camp in place and organized. When we transitioned, we changed camp locations. We still had aviation resources and we had the overhead for the aviation resources, but there still was a transition. It would have just been better, in that circumstance, to have had that team remain in place or have transitioned a day or two earlier. When the fire took off on that transition day ...it became obvious to the Type 3 Incident Commander, within maybe an hour or so after it started to roll, that it was out of his complexity level. He consulted with us, we did the evaluation and risk analysis, and determined that it had become a Type 2 and maybe even a Type 1 complexity level fire.”

Relationships

When the Rattle Fire increased in size and migrated out of the Boulder Creek Wilderness and crossed Highway 138, it tested the relationship of the Forest Service with the surrounding community. Cliff Dils recalls, “People who lived in the community up there were uneasy. Obviously the folks in Dry Creek and PacifiCorp wanted us to protect their property. At that point when the fire escaped and blew out of the wilderness, and went across the highway in particular, some of the infrastructure became more of a concern. Closing down a state highway, and keeping it closed for a long time, really started creating additional issues to our fire strategy.”

The biggest issue was the closure of Highway 138, interrupting the flow of goods and services and visitors between Roseburg, the resorts at Lemolo Reservoir and Diamond Lake, and Crater Lake National Park as well as interfering with people who had work in the forest that was not directly in the fire area. The Forest Service provided an alternate route for the fire fighters and allowed access to locals, and worked with ODOT to open the highway as soon as safely possible. In spite of the inconveniences and difficulties, the relationship with the communities remained strong and was even enhanced by the efforts made to keep the public informed.

According to Cliff Dils, there was a real effort to keep people informed. “We weren’t making promises that your house isn’t going to burn. What we were saying is this is where the fire is, this is what it’s doing, and if it comes to here or it does this, this is what you’re going to have to do,” said Dils. “I think we actually had more trust and understanding because of that approach, but we also had a community that understood natural resources and wildfire; maybe better than the average person.”

The relationship with other agencies was strengthened as well. Joe Linn recalls, “Our relationship with ODOT improved as we had to interact with them directly. They understood our operational decisions on what was safe and what wasn’t safe.”

Dan Metz, ODOT, further explains that the relationship building during the Rattle Fire made working together much easier during fires the following year.

Linn continues, “Our relationship with Douglas Forest Protective Association (DFPA) improved as well. The Rattle Fire did not encroach on any private land. We thought it was going to, but it never did and the DFPA was right in there with us. We had them as part of the management team filling some specific roles, and I think that really helped. Our cooperation with the DFPA is very good, and I think all of that was better when it was done.”

Costs of Fighting the Rattle Fire

The time and resources required to finally end the Rattle Fire cost nearly \$23 million, with an additional \$500,000 spent on rehabilitation of the burned area. ODOT invested \$300,000 into the fire for traffic control, highway cleanup and repair, and replacing signs and guardrails.

Cliff Dils admits he thought about the cost. “We spent the equivalent of our entire annual forest budget on a fire,” said Dils. “Generally speaking, the cheapest fires are the smallest fires. Hindsight is always 20/20. I’m convinced that if we had taken a helicopter and committed it to the Rattle Fire continually, and tried some other tactics, there would have been a tradeoff with some other fire on the forest that would have caused it to get bigger. Accessibility within a wilderness is an issue we wrestle with during fire fighting.”

“The hydropower infrastructure was threatened unless the fire stayed in the Wilderness,” said Dils. “Our goal was to keep it in the Wilderness even if it burned two months. When it burned out of the Wilderness it presented another set of issues.”

Responding to the suggestion that resources were withheld earlier because the national firefighting budget had been depleted by the southern California fires, Dils continues, “There was never a time where people were giving us direction and saying we had to get this thing out or we had to down size or anything because we are out of money. We’ve been under fire transfer for the last several years. The way that works is there is so much money every year that is allocated to the Forest Service for fire suppression. When the Forest Service runs out of that money, we use other appropriated dollars and even non-appropriated dollars, such as money we get from timber sales. Former Undersecretary of Agriculture Mark Rey repeatedly said if we have fires we will fight them. Our rules say we must fight fire, and if we run out of fire-fighting funds we have to use non-suppression dollars to pay for it.”

When asked about salvaging timber in the burned area to help offset the costs of suppression and rehabilitation. Dils responds, “Early on we asked ourselves about salvaging the burned wood. First of all, the majority of the fire is in the Boulder Creek Wilderness. By law we can’t salvage it. The second part of it is, we looked pretty hard outside the Wilderness to see what was merchantable. The last numbers I remember were less than 300 acres. So you got a 20,000-acre event with less than 300 acres of potential salvage, and most of that was in stands too young for commercial use or in areas that hadn’t burned severely enough to kill the larger trees.”

The burned trees that are not removed will remain to add to the complexity of fighting fire and fuel loads for when the next fire starts in the area.

Conclusion

The Umpqua National Forest is the caretaker of a landscape altered by the Rattle Fire, a combination of weather events, decisions made, and the efforts of thousands of people within and out of the Forest Service. Healing of the land will take time and is a natural process in our dynamic forest ecosystems. Forest Supervisor Cliff Dils stands behind the decisions that were made, and bears the weight of that responsibility. In spite of the cost, and loss of forest resources; the Forest Service remains optimistic about the recovery and future of the forest, and is proud of its many members who helped subdue the Rattle Fire, as well as the continuing strong relationships built with neighboring communities and agencies.

Appendix A. Rattle Fire Time Log

Rattle Fire Time Log 2008

August 15	Widespread lightning event occurs.
August 17	Rekindled from previous lightning event, the North Fork Fire assigned to Blue Mountain IMT, Rob Batten as incident commander
August 18	Fire reported at 8:13 a.m., initial action by Diamond Lake Ranger District firefighters. Fire is 1 to 2 acres.
August 19	Light rain on the 19 th and 20 th .
August 21	Size reported at 1 acre. Deemed unsafe by district to take action.
August 22	Fire is 10 acres in size at 6:50 p.m.
August 23	Batten and the Blue Mountain IMT take command of Rattle at 6 a.m. Fire is 100 acres in size at 2:38 p.m.
August 30	Eastern Area Fire Use Management Team, Barbara Bonefeld as incident commander, are called in to do a long-term implementation plan.
August 31	The NW IMT, with Carl West as IC, takes command of the fire at 6 a.m.
September 5	Nick Lund and a Type 3 incident management team take over fire at 6 a.m. Fire makes a run out of wilderness that evening. Forest orders a Type 2 team.
September 6	Fire is 1,900 acres.
September 7	Ken Paul and the ORCA incident management team takes over fire at 6 a.m.; size is 2,236 acres.
September 14-17	Significant fire behavior and growth on predominant Haines 5 and 6 days. On the 14 th , the fire was 4,161 acres on the 14 th , 7,024 acres on the 15 th , 11,207 acres on the 16 th , and 14,277 acres on the 17 th .
September 20	Chris Hoff and the PNW Team 2, a Type 1 incident management team, assume command of Rattle Fire at 15,772 acres.
September 28	Jim Valentine and a Type 3 team assumed command of the Fire, now 18,078 acres and 62 percent contained.
October 4	Umpqua National Forest assumed command of the Rattle Fire, now 19,775 acres and 90 percent contained.

Appendix B. Terminology

Terminology from the Glossary of Wildland Fire Terminology

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Above Ground Level (AGL). Term frequently used in aviation operations, usually in connection with a stated altitude.

Burn Out. Setting fire inside a control line to consume fuel between the edge of the fire and the control line.

Cache. A pre-determined complement of tools, equipment and/or supplies stored in a designated location, available for incident use.

Camp Manager. This ICS position is responsible for ensuring that services, supplies, and non-technical coordination are provided within a camp.

Contained. The status of a wildfire suppression action signifying that a control line has been completed around the fire, and any associated spot fires, which can reasonably be expected to stop the fire's spread.

Controlled. The completion of control line around a fire, any spot fires therefrom, and any interior islands to be saved; burned out any unburned area adjacent to the fire side of the control lines; and cool down all hot spots that are immediate threats to the control line, until the lines can reasonably be expected to hold under the foreseeable conditions.

Cooperating Agency. An agency supplying assistance including but not limited to direct tactical or support functions or resources to the incident control effort (e.g. Red Cross, law enforcement agency, telephone company, etc.).

Demobilization. Release of resources from an incident in strict accordance with a detailed plan approved by the incident commander.

Demobilization. Release of resources from an incident in strict accordance with a detailed plan approved by the incident commander.

Dispatch Center. A facility from which resources are assigned to an incident.

Dozer. Any tracked vehicle with a front mounted blade used for exposing mineral soil.

Duff. The layer of decomposing organic materials lying below the litter layer of freshly fallen twigs, needles, and leaves; and immediately above the mineral soil.

Energy Release Component (ERC). The computed total heat release per unit area (British thermal units per square foot) within the flaming front at the head of a moving fire.

Escaped Fire. Fire which has exceeded or is expected to exceed initial attack capabilities or prescription.

Extended Attack Incident. A wildland fire that has not been contained or controlled by initial attack forces and for which more firefighting resources are arriving, en route, or being ordered by the initial attack incident commander. Extended attack implies that the complexity level of the incident will increase beyond the capabilities of initial attack incident command.

Extreme Fire Behavior. "Extreme" implies a level of fire behavior characteristics that ordinarily precludes methods of direct control action. One or more of the following is usually involved: high rate of spread, prolific crowning and/or spotting, presence of fire whirls, strong convection column. Predictability is difficult because such fires often exercise some degree of influence on their environment and behave erratically, sometimes dangerously.

Faller. A person who fells trees. Also called sawyer, and cutter.

Fire Behavior Analyst. Person responsible to the planning section chief for establishing a weather data collection system and for developing fire behavior predictions based on fire history, fuel, weather, and topography.

Fire Cache. A supply of fire tools and equipment assembled in planned quantities or standard units at a strategic point for exclusive use in fire suppression.

Fire Suppression. All work and activities connected with control and fire-extinguishing operations, beginning with discovery and continuing until the fire is completely extinguished.

General Staff. The group of incident management personnel reporting to the Incident Commander. They may each have a deputy, as needed. The General Staff consists of: Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance/Administration Section Chief.

Haines Index. An atmospheric index used to indicate the potential for wildfire growth by measuring the stability and dryness of the air over a fire.

Helibucket. Specially designed bucket carried by a helicopter like a sling load and used for aerial delivery of water or fire retardants.

Helitack. Refers to "helicopter-delivered fire resources", which includes both firefighters, equipment and water drops.

Hot Spot. A particularly active part of a fire.

Hotshot Crew. Intensively trained fire crew used primarily in hand line construction (Type-1).

Incident Command Post (ICP). Location at which primary command functions are executed. The ICP may be collocated with the incident base or other incident facilities.

Incident Commander. This ICS position is responsible for overall management of the incident and reports to the Agency Administrator for the agency having incident jurisdiction. This position may have one or more deputies assigned from the same agency or from an assisting agency(s).

Incident Management Team. The incident commander and appropriate general and command staff personnel assigned to an incident.

Initial Attack (IA). A planned response to a wildfire given the wildfire's potential fire behavior. The objective of initial attack is to stop the spread of the fire and put it out at least cost and least size. An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Minimum Impact Suppression Techniques (MIST). The application of strategy and tactics that effectively meet suppression and resource objectives with the least environmental, cultural and social impacts.

Mop Up. Extinguishing or removing burning material near control lines, felling snags, and trenching logs to prevent rolling after an area has burned, to make a fire safe, or to reduce residual smoke.

Near Miss. Any potential accident which, through prevention, education, hazard reduction, or luck, did not occur.

Nomex ®. Trade name for a fire resistant synthetic material used in the manufacturing of flight suits and pants and shirts used by firefighters. Aramid is the generic name.

Objective. 1. A description of a desired condition; quantified and measured, and where possible, with established time frames for achievement. 2. Specific, achievable, measurable, time-limited results to be achieved through land management practices, either through a description of a desired condition or the degree of desired change in an attribute.

Patrol. 1. To travel over a given route to prevent, detect, and suppress fires. Includes interaction with the public for wildland fire prevention and educational purposes. 2. To go back and forth vigilantly over a length of control line during and/or after construction to prevent breakovers, suppress spot fires, and extinguish overlooked hot spots. 3. A person or group of persons who carry out patrol actions.

Patrol Unit. Any light, mobile unit with limited pumping and water capacity.

Pulaski. A combination chopping and trenching tool widely used in fireline construction, which combines a single-bitted axe blade with a narrow adze-like trenching blade fitted to a straight handle. (Authors Note: Named after Ed Pulaski, Famous Crew Boss)

Rappelling. Technique of landing specifically trained and certified firefighters from hovering helicopters; involves sliding down ropes with the aid of friction-producing devices.

Reburn. 1. Repeat burning of an area over which a fire has previously passed, but left fuel that later ignites when burning conditions are more favorable. 2. An area that has reburned.

Red Flag Warning. Term used by fire weather forecasters to alert forecast users to an ongoing or imminent critical fire weather pattern.

Rehabilitation. Efforts undertaken within three years of a wildland fire to repair or improve fire damaged lands unlikely to recover to a management approved conditions or to repair or replace minor facilities damaged by fire.

Relative Humidity (RH). The ratio of the amount of moisture in the air, to the maximum amount of moisture that air would contain if it were saturated. The ratio of the actual vapor pressure to the saturated vapor pressure.

Safety Officer. A member of the command staff responsible to the incident commander for monitoring and assessing hazardous and unsafe situations, and developing measures for assessing personnel safety.

Short-Range Spotting. Firebrands, flaming sparks, or embers are carried by surface winds, starting new fires beyond the zone of direct ignition by the main fire. The range of such spotting is usually less than 1/4 mile.

Snag. Standing dead tree.

Temporary Flight Restriction (TFR). A restriction requested by an agency and put into effect by the Federal Aviation Administration in the vicinity of an incident which restricts the operation of nonessential aircraft in the airspace around that incident.

Torching. The burning of the foliage of a single tree or a small group of trees, from the bottom up.

Water Tender. Any ground vehicle capable of transporting specified quantities of water.

Wetting Rain. A widespread rain that over an extended period of time significantly reduces fire danger. One tenth of an inch may be sufficient to reduce fire danger in grass fuel models. One half inch may be necessary for timber fuels under closed canopies.

Wind Shear. A variation in wind speed and/or direction in a layer of the atmosphere or between layers. The variation may be in the horizontal or vertical dimensions and may result in significant turbulence depending upon the magnitude of the wind speed/direction differences. A strong wind shear may act like an inversion and inhibit plume rise. It may also fracture the smoke plume, not allowing smoke to rise much above terrain levels. A strong horizontal anticyclonic shear results in downward motion and may bring smoke aloft to the surface.

Appendix C. Rattle Fire Progression Map