

Thirtymile Fire Investigation Report

United States
Department
of Agriculture

Forest
Service



September 2001

Thirtymile Fire Investigation

Accident Investigation Factual Report and Management Evaluation Report

**Chewuch River Canyon
Winthrop, Washington
July 10, 2001**

September 26, 2001

as amended October 16, 2001

Forest Service
U.S. Department of Agriculture



Accident Investigation Factual Report

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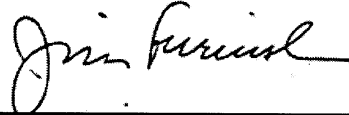
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Forest Service
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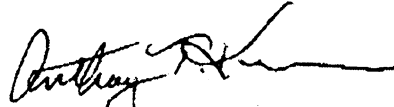
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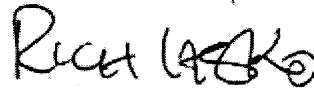
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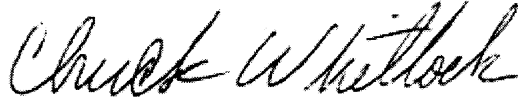
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In Memory Of

*Tom Craven
Karen FitzPatrick
Jessica Johnson
Devin Weaver*

And Dedicated To Those Who Will Be Saved

Prologue

The stillness of this place is eerie amidst the lingering smoke. The Chewuch River makes no sound as it glides by. Yet, there was violence here unimaginable to anyone who didn't witness the conflagration. Four people died here.

The charred surfaces of rocks are now calico cat-like from flaking, and boulders have been fractured by the heat. The conifers' small branches are frozen in time, needles intact, as they twisted away from the blast of the fire, and their trunks can't be blacker. Abandoned fire shelters lie scattered about on the ground and another glistens from the river bottom. The burned-out shell of a pickup truck sits on the road with windshield glass drooping over the dashboard and rivers of molten aluminum flowing away. This is a place that will long be remembered by the survivors and families of the deceased.

The investigation team spent many sobering hours here seeking to understand what happened and why, in hopes that a tragedy such as this will never happen again. We labored with respect and honor for those who died, and with a sense of duty to those who will face such a time in their life. We dedicate this report to the hope of lives saved.

Let there be no more purple ribbons.

Executive Summary

The Incident

On July 10, 2001, four Forest Service fire suppression personnel were killed after they became entrapped and their fire shelter deployment site was burned over by the Thirtymile Fire, in the Chewuch River Canyon, about 30 miles north of Winthrop, Washington.

The fire, an escaped picnic cooking fire, was detected on Monday, July 9th. Initial suppression activities began that evening. In addition, the Libby South Fire was already burning about 50 miles south of this area, and exceeded 1,000 acres. The Northwest Regulars #6 (NWR #6), a 21-person Type 2 crew from the Okanogan-Wenatchee National Forest, was dispatched to the Thirtymile Fire in the early morning hours of July 10th. They arrived about 9:00 a.m. in relief of the Entiat IHC crew who had been working on the fire overnight.

The area was enduring a lengthy drought and the moisture levels in large fuels were very low. The Energy Release Component, a measure of potential fire intensity, was near historic high levels for this time of year. Temperatures on July 10th reached nearly 100°F, and the humidity was very low. Although there was no dramatic shift in weather that would have created high winds, such as a dry cold front, up-canyon breezes were present to aggravate burning conditions. Fire conditions were potentially extreme.

By the late afternoon the fire advanced from its perimeter east of the Chewuch River toward the top of the east ridge. At this time, the NWR #6 was suppressing fires between the road west of the Chewuch River and the river itself. They were attempting to confine the fire to the east of the road. There were no personnel east of the river at that time since it had been determined that suppression activities there were fruitless. The NWR #6 crew took a break in mid-afternoon to eat, sharpen tools, and rest. About 4:00 p.m., they responded to a request from an Engine crew for help on a spot fire ¼ mile north of their position. They sent two squads to assist.

In the moments immediately prior to the entrapment, one of the squads and the crew boss trainee (a total of seven people) were working in association with a fire engine and its three person crew when a spot fire erupted right next to the road. The seven NWR #6 crewmembers and the engine crew immediately got in their vehicles and drove south past the fire along the east edge of the road to safety. While driving, they radioed the remaining 14 crewmembers who were working north, further up the river, of their dangerous situation.

The remaining 14 crewmembers (the Incident Commander and two NWR #6 squads) were actively suppressing spot fires between the river and the road about 1/4 mile north of the first squad when they were informed of the worsening situation that threatened their escape route. Immediately, 10 of the 14 got in the crew van and began to drive south. The other four preceded the van on foot. The van was driven past these four and approached the fire that was now burning across the road. The Incident Commander (IC) assessed the risk as too great to proceed.

He turned the van around, picked up the four crewmembers, all of the crew gear, and drove north upriver. The IC assessed different areas as potential safety zones or shelter deployment areas. Approximately one mile north, the IC selected a site characterized by an extensive rock scree field above and west of the road. The Chewuch River and a sand bar were just east of the road. The site also had relatively sparse vegetation in the surrounding area. The NWR #6 crew unloaded and congregated on and above the road as they watched the fire. The van was turned around and parked on the side of the road next to the river.

Two civilians, a man and woman, arrived in their truck shortly after the crew. In the early afternoon they had driven to a campground near the road terminus about two miles beyond the deployment site. They had noticed the fire and suppression work while driving up the road to the trailhead. Later in the afternoon while resting they saw the smoke and decided to leave the area. No fire shelters or information about shelter deployment were made available to them when they encountered the crew.

Although observers had noted the approach of the fire, the crew was not prepared for the suddenness with which it arrived. A rain of burning embers was followed by a rolling, wave of tremendous heat, fire, smoke, and wind. Eight of the crew deployed their shelters on the road. The two civilians took shelter with one of crewmembers. One squad boss was high above the road on the rock scree observing the fire. He ran down towards the road, but could not get there before the fire arrived. He turned around and retreated back up the slope. Four crewmembers and another squad boss, who had been sitting on some large boulders above the road observing the approach of the crown fire, also retreated up-slope. These five deployed their shelters in the same vicinity as the squad boss. Four of the six people who deployed shelters in this rock scree field died.

The surviving squad boss and crewmember (who had no gloves) both left their shelters at some point when the fire abated to non-lethal levels. The squad boss fled down the rock scree field to the road and jumped in the river. The other survivor sought shelter from the radiant heat behind a large boulder for a few minutes. He then fled to the safety of the crew van. The crewmembers and the two civilians that had deployed on the road eventually relocated to the river when conditions allowed their safe movement.

After the passage of the fire, all but four crewmembers were accounted for. The rescue party arrived approximately 35 minutes after the shelter deployment. One crewman with severely burned hands was evacuated to a hospital in Seattle while the remaining injured were treated locally and released.

All four deaths were caused by asphyxia due to inhalation of superheated products of combustion.