Incident Summary Page for the 100 Fires Project

Incident Name:	**Incident Date & Time:**
Thirtymile Fire	07/10/2001 @ 17:24
Incident Location:	**Incident Size:**
Chewuch River Canyon near Winthrop, Washington	500 acres at time of burnover 9,300 acres final size
Type of resources involved:	**# of Fatalities/injuries:**
US Forest Service Type 2 handcrew	4 fatalities / 1 burn injury

Reasons this fire was selected for the 100 Fires list:

- Fire made a notable impact within the wildland fire service
- 3 or more firefighter fatalities

Conditions leading up to the event:

Late in the evening of July 9, 2001, a small fire of roughly five acres was reported along the Chewuch River on the Okanogan-Wenatchee National Forest. The Chewuch River runs in a north to south direction through a rugged, steep canyon just south of the Canadian border. This became the Thirtymile Fire; which was viewed as low priority, because a larger incident, the Libby South Fire, was actively growing just to the south.

The Northwest Regular Crew (NWR #6) was ordered for the Libby South Fire early on the morning of July 10. The crew assembled in Leavenworth at 03:00 with very little sleep. NWR #6 was composed of 21 individuals from the Naches and recently combined Lake Wenatchee and Leavenworth districts. They were formed into three squads, some being comprised of personnel who had never met before and some whom recently finished fire school.

After the three-hour drive north to the Twisp Ranger Station, the crew was informed, at 07:00, that they were being diverted from the Libby South Fire to the Thirtymile Fire. The NWR #6 crew along with district fire managers and forest personnel arrived at the Thirtymile Fire at 09:00 to relieve the Entiat Interagency Hotshot Crew (IHC). At the time of their arrival a majority of NWR #6 had only received one to two hours of sleep. At this time, the Thirtymile Fire was determined to be a "mop-up show" not to last more than a couple days. According to the official investigation report nearly all personnel on the Thirtymile Fire the morning of July 10 were suffering from some effect of mental fatigue due to lack of sleep.

Brief description of the event:

On the morning of July 10 urgency was placed on the various spot fires located on the east side of the river. An additional crew was requested to aid in firefighting efforts alongside the NWR #6 crew. Due to other fires in the area creating a lack of resources this crew would not arrive until well after the eventual entrapment. The road was requested to be barricaded to prevent civilian traffic that morning, however the road was not closed off until late afternoon after a civilian vehicle had already passed by the fire area. The Crew Boss Trainer and Crew Boss Trainee were informed by the District Fire Management Officer they could expect support by helicopter, but it did not show up until 1400. As the day proceeded, the fire transitioned from an initial attack effort to an extended attack fire with poor radio communications, erratic pump operations, broken hoses, and broken tools continuing to plague suppression efforts. During the afternoon leaders failed to recognize the rapidly falling humidity and magnitude of the spot fires which steadily picked up throughout the shift. These are all factors which contributed to the eventual outcome.

At 15:30, two engines arrived and failed to check in with the Incident Commander or receive an operational briefing. Their mission given by the local Assistant Fire Management Officer there on-scene, was to *"keep the spots on the west side of the road."* At this point, firefighters and management acknowledged the fire was quickly outgrowing the initial attack phase and accepted the fact that they had lost the fire. Regardless of this "lost" decision, two squads of the NWR #6 crew were called to assist one of the engines with securing a spot fire next to the road, up canyon from the fire. These two squads proceeded to their assignment and tied in with the engine at the spot fires. The third squad of NWR #6 was requested to assist the second engine with additional spot fires. The third squad proceeded towards their assignment but immediately turned around and retreated to the heel of the fire due to aggressive fire actively and spotting.

The two squads of NWR #6 and the Incident Commander were cut off from their safety zone at 16:34 and forced to travel further up the canyon to find another safety zone or deployment site. The Incident Commander looked at three possible sites as he drove north, and with support from Air Attack, he selected a fourth a site as the crew's safety zone. It was characterized by extensive rock scree above and west of the road. The Chewuch River and a sand bar were just east of the road. There was relatively sparse forest vegetation in the surrounding area. The scree slope consisted of a jumble of six-inch to six-foot diameter rocks interspersed with woody debris and duff.

The NWR #6 crew congregated on and above the road as they watched the fire. There was no formal briefing given concerning possible deployment. A Squad Boss and crewmember went up the scree slope to look for possible deployment spots. The crewmember thought there was too much vegetation amongst the rocks and returned to the group on the road. Six of the ten crewmembers from the

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Naches District stayed clustered together on the rock scree just above the road. The crew was still operating in the belief they were in a safety zone. During this time a vehicle with two civilians came driving down the canyon and became embedded with the NWR #6 crew for safety purposes.

At 17:24, the fire behavior changed dramatically. The intensity of the fire overwhelmed the area and took the crew by surprise. Crewmembers reported the fire was *"coming very fast, roaring"* and was preceded by ash and a *"fire snowstorm."* One crewmember on the road deployed their fire shelter unsolicited and everyone else on the road followed the example, many found it difficult to deploy in the increasing wind. Several of the crew on the road deployed with their head facing the flames and with their backpacks on. Some deployed with their faces up. Others dropped their backpacks right next to their shelters. The civilians were each paired up with a firefighter and deployed in a fire shelter together with them.

Up on the slope in the rock scree the Squad Boss concluded the rock slope was not a good deployment area and was coming down to the road when fire engulfed the site. He turned and ran up the slope before he deployed. At the same time the Naches group on the rocks also ran up the slope behind him. The Squad Boss deployed first and observed a group of five firefighters running uphill in front of the flames just prior to their deployment. He yelled at them to deploy as he was getting into his shelter. The six deployed in a tight cluster among the rocks. The site where they deployed was about 100 feet above the road and had large, one to three foot boulders with woody material imbedded in the rocks.

Once in his shelter, the Squad Boss was convinced that his shelter would not hold together long enough to save him. He decided to run down the slope and jump into the river. Another crewmember in the rocks did not have gloves on and his hands became badly burned, he could not effectively hold the shelter down and decided to leave his shelter. He left his shelter and moved through the rock scree trying to avoid the heat and flames. He eventually reached the road and got into the van. These two individuals who moved out of the rock scree survived.

After about 15 minutes the eight firefighters and two civilians that had deployed on the road emerged from their fire shelters and they were directed to move down to the river. During the deployment the group maintained communication with the Air Attack. Once fire behavior subsided, several attempts were made to hail the individuals deployed up in the rock scree without success. Air Attack was notified that four people were missing and the Entiat IHC was requested to cut their way up the road to the deployment site.

At 18:00 Entiat IHC overhead, EMT's, and the NWR #6 Crew Boss Trainee arrived at the accident site and performed initial triage and medical assessment on the crewmembers and civilians. Upon further assessment of the individuals who had remained deployed in the rock scree it was discovered they had not survived. Tom Craven, Karen FitzPatrick, Jessica Johnson, and Devin Weaver perished away on July 10 as a result of the blow up that occurred on the Thirtymile Fire.

Fire behavior factors that were present during the event:

The Energy Release Component was at a historic high level.

Seasonal drought with 1-hour / 10-hour / 100-hour fuel moistures all below seasonal norms and the riparian fuels in the canyon bottom held little live fuel moisture.

The temperature that day was 94 degrees and the relative humidity was 8%.

Local fire behavior factors played a role in this incident. Strong up canyon winds, which were a regular occurrence in this canyon, pushed the fire in the afternoon. As the fire began to run up the canyon it split into two heads. Another factor was a high Haines Index which was typical that time of year. The two heads eventually pulled together and formed an immense pyro cumulus cloud at the deployment site.

Operational lessons available for learning from this incident:

Fire shelter use – training needs to emphasize the shelter's basic functions; one of which is an air "seal" when held to the ground. Basic shelter training counsels against deploying in rocky, uneven surfaces where the shelter cannot be sealed to the ground and smoke and gases can travel through the rocks and fill the shelter.

Safety zones – determining if an area is large enough to be an actual safety zone in heavy vertical fuels is problematic. For this reason it is a best practice to prepare your crew to be ready and in a position to deploy rapidly and in support of one another should the situation suddenly warrant it. In the time leading up to a fires impact on your safety zone, a review of shelter basics as to line gear placement, fuel disposal, proper body positioning, keeping out of vehicle right of ways and a review of PPE usage is useful.

Cumulative fatigue – it was identified as a human factor that impacted decision making by multiple resources on the incident.

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Scope of duty – the Crew Boss was acting as a Crew Boss Trainer and Incident Commander of the fire, combined with cumulative fatigue it was determined by investigators that this resulted in an inability to fulfill both roles completely.

Spot weather forecast – a weather forecast was received; however it was for the Libby South Fire, which was not specific to the area of the Thirtymile Fire.

Notable impact or historical significance for the wildland fire service from this incident:

This tragedy led to scrutiny of the Incident Commander Type 3 role and extended attack operations. Several changes in national wildland fire policy resulted from this incident: Definitive work-rest guidelines were enacted; incident briefing protocols were established; and individuals assigned as an Incident Commander Type 3 could no longer fill other supervisory roles.

Links to more information on this incident:

https://www.nwcg.gov/wfldp/toolbox/staff-ride/library/thirtymile-fire
https://www.fs.usda.gov/t-d/lessons/documents/Thirtymile_Reports/Thirtymile-Final-Report-2.pdf
https://www.nwcg.gov/committee/6mfs/thirtymile-fire
https://wlfalwaysremember.net/2001/07/10/thirtymile-fire-entrapment/
https://wildfiretoday.com/?s=thirtymile&monthnum=&year=&states_provinces=&countries=&topics=

Book:

- *The Thirty Mile Fire: A chronical of Bravery and Betrayal~* By John Maclean

The Wildland Fire Lessons Learned Center offers an excellent site which provides information on many wildland incidents.
Wildland Fire Lessons Learned Center's Incident Review Database (IRDB) (wildfire.gov)**.**

This summary page was proudly provided by: Entiat IHC - Jacob Conklin and Makenzie Haymaker	September 2023

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