Introduction

Dude Fire Still Smokin'

By Mike Johns
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Below him loomed a talus slope of jagged debris, pried by nature from the sheer cliffs above him. Twilight was setting in, and would soon deprive him of a visual landing. He was, quite literally, at the end of his rope, facing a choice of dropping the remaining distance, or trying to climb back up the cliff.

This is what the Hotshot Crew Superintendent did for relaxation between fire seasons. This same Hotshot Superintendent would place himself between the onrushing Dude Fire flame front and the EMTs called to save a burned Perryville crewmember's life. Paul Gleason, Zigzag Hotshots, carefully measured the progress of the flame front against the progress of the rescuers, then pushed the rescuers to safety inside a burnout.

What is it about firefighters? I think that a part of everyone wants to be a firefighter, to take on Nature at her best, to beat her, or to cheat her, out of what the laws of nature would grant her. And to live to tell about it.

Whatever it is about firefighters, it compels me to write about the Dude Fire, even though I haven't fought a fire in over 20 years. I started fighting fires on a helitack team on the Payson Ranger District in which the Dude Fire occurred. I had worked with some of the Dude firefighters then, and when I was the Hotshot Crew Foreman on my District. My contact with fire is now in the courtroom. Whatever it is about firefighters also compelled the attorneys representing Arizona in the Dude Fire litigation to earn their own Red Card. Although they will tell you it was to better understand how to defend the case, it was really that part of them which wants to take up the firefighters' challenge.

There were many heroic actions that saved lives on the Dude Fire. And at least two of the inmate crewmembers who died in the Dude Fire, died trying to save a

corrections officer and a fellow crewmember, all of whom perished together in the fire. The bronze statue erected at the old Payson Ranger Station is a tribute to firefighters who have given their lives fighting wildfires. Six years later, the Dude Fire still smoldered in the courtrooms of Arizona, the research labs of Montana, and in the hearts of firefighters.

The Dude Fire entrapment occurred during the hottest day ever in Phoenix, Arizona. It was so hot, the FAA shut down all flights in and out of Sky Harbor, because there were no data establishing that loaded aircraft could take off or land in such extreme heat. However, the FAA let the medivac chopper from the Dude Fire land, accepting pilot Les Hanberg's own assessment that his craft could do it. The fire was ignited by lightning, during a five-year drought, the day before the entrapment, in atmospheric conditions conducive to fire-generated and natural thunderstorms. In 24 hours, management passed from two neighbors of mine who were first to reach the scene, to initial attack forces, to a Type II Team and to a Type I Team. The fire was finally contained by three Type I Teams working together. Although many homes were lost to the fire, many homes were saved, including my parents' home and the homes of two of my uncles. Even homes at the head of the fire were spared, especially those around which the forest had been thinned and prescribed burned.

The Forest Service Manual requires that firefighters ensure that the fire can be fought consistent with the Ten Standard Fire Orders. But the Dude Fire litigation raises the question of how much discretion do the Fire Orders allow, and how much risk is therefore tolerable. The Manual requires that firefighters be alert to the Watchouts and take appropriate responsive actions. But there is no objective standard against which to measure the risk against the propriety of the action. Fire managers would shudder at the legal arguments made in the Dude Fire litigation which demonstrate the great amount of discretion which the Standard Fire Orders and Watchouts permit. This issue has also been raised, and some good suggestions made by Ted Putnam, et al., Findings From the Wildland Firefighters Human Factors Workshop, USDA Forest Service, p. 8, November 1995.

Hotshot crews were conducting a burnout along the flank of the Dude Fire. Adjacent to them, the Perryville Crew was improving the dozer line on an old jeep trail, and the Navajo Scouts Number 2 were improving the dozer line below Perryville. The burnout was designed to keep the fire out of a subdivision of summer homes. Everyone was aware of the potential for thunderstorms, fast runs and spot fires. The Prescott Hotshot Crew Superintendent and Foreman were assessing the main fire in preparation for bringing the burnout further down the dozer line. Nando Lucero and Tony Sciacca had noticed the inflow winds subside, and the smoke start to settle, and decided that they didn't like the situation. They pulled their crew out toward a safer area and advised the adjoining crews. Attempts to reach Perryville by radio and on foot had failed. They were already on the run. While contacting their Division Supervisor, the fire blew up behind the Prescott Crew. "Safety First" had prevailed over "can do", for the Prescott Hotshots. Further down the dozer line, the Navajo Scouts 2 lookout saw the fire blow up, and sounded the alarm. So did the Alpine Hotshot Superintendent and the Perryville Crew Rep. About this time, helicopter pilot Dean Battersby was climbing to go over the Mogollon Rim, when his helicopter dropped several

thousand feet, at several thousand feet per minute, before he could recover.

The Dude Fire was a plume dominated fire. (see Rothermel, R., Predicting Behavior and Size of Crown Fires in the Northern Rocky Mountains, USDA Forest Service, p. 4, 1991). A downburst from the fire convection column drove a flame front toward the Alpine, Perryville and Navajo Scouts 2 worksite. Smoke quickly blocked their view of the flame front. Alpine went up, Perryville and Navajo Scouts went down. This was a downhill fire run, against the prevailing winds, at speeds faster than the crews could run down the dozer line, cutting off the last 11 Perryville crewmembers. Five inmates and a corrections officer died, four inmates and a Crew Rep survived in their shelters.

Surprisingly, (and fortunately) the Hotshot crews, engine Strike Team, media people and Overhead, uphill and closer to the burnout, were not subjected to such rapid rates of spread. As Perryville reported that it was deploying shelters, firefighters a few hundred yards away were not even aware of the fast-moving flamefront. The rescued inmate crewmember mentioned above had run nearly 300 yards down the dozer line, had run back up, deployed near the original work site through the first of several flamefronts, left his shelter and walked up the dozer line a few hundred feet from the original worksite, where he emerged from the smoke and was spotted by Paul Gleason, J.P Mattingly, the Alpine Hotshot Superintendent, and Paul Linse, the Flathead Hotshot Superintendent, who were double checking to make sure the Perryville crew had left. As the fire spread in all directions, another Navajo Scouts Crew, Crew Number 1, went safely into the black several miles to the west. Several hundred people became entrapped in safety zones as the fire overran all perimeters of this large fire.

The federal case, brought by some of the injured survivors and family members of those who died, is now settled through compromise. The state case has also been dismissed. A variety of questions still call out for answers. When minutes, and even seconds count, can the lookouts accurately assess and convey the information needed for escape? Are multiple escape routes present? Which route will be chosen? Can two routes be defeated by one event? Is a safety zone five minutes away too far? Can we better predict the likelihood of downbursts? Was horizontal roll vortex present, and what is it? What human factors contributed to the good and bad results in this entrapment? What role did the urban interface play in this tragedy?

The quick answers often fail to withstand scrutiny. Paul Gleason and I have debated the ability of LCES to ensure safety in downburst events. The Dude fire strategy was textbook, and it was working. In an hour or so, the Hotshots would have burned out what became the entrapment site. The entrapment site had been well-used all day. The jeep trail had been flown, scouted, flagged and bulldozed. It had been walked and incorporated into the strategy by the Incident Management Team, clear up to the IC. Hotshot Crews used it for ingress. ATCs used it for delivering supplies. The Strike Team was laying hose to it from the top, and a seasoned Forest Service pumper crew was laying hose in from the bottom. The Strike Team Leader was at the site 20 minutes before the blowup. The District

FMO and The Ops Section Chief were there 15 minutes before the blowup, talking with the Crews and assessing the fire behavior.

Entrapments during ingress and egress continue to occur, from Mann Gulch in 1949, to the Point Fire in 1995. On the Dude Fire, any of a hundred firefighters could have been at the wrong place at the wrong time when the downburst occurred. At the very least, supervisory firefighters and lookouts need to take key moments during movements, fire behavior changes and weather changes, and visualize a response to possible worst-case events. Can they see the terrain, the fire and the weather? Do they need more information? What escapes and safety zones are available? LCES, Standard Fire Orders and Watchouts need to be rechecked against current and potential conditions at all key times.

Environmental questions also remain. Will we be able to repair the health of the forest to reduce catastrophic fires? Although the increased risk to firefighters is well known, the solutions are less clear (Williams, J. Firefighter Safety in Changing Forest Ecosystems, Fire Management Notes, 55(3) pp.6-8). The rate of biomass production far exceeds our current volume of treatments. Using seasonal firefighters year-round could help, and moving funds from the massive fire suppression budget to the meager treatment and prevention budget could pay off in the long run. My own cabin near the Dude Fire has been repeatedly threatened by major fires. Two weeks before the Dude Fire, the same Type II team stopped the 700 acre Bray Canyon Fire a hundred yards from my place. From an old helispot with their lookout, I had the pleasure of watching the Heber, Arizona, Hotshots conduct a successful burnout on the face of the Mogollon Rim to stop the fire. I am in a race against Mother Nature and Father Time, trying to move forward with forest health before Dude repeats itself. I am an urban interface problem with a lower priority than the local communities which are also at risk.

Legal questions also remain. Why weren't the inmates covered by federal workers compensation, entitling them to medical care and benefits without having to prove fault? The Perryville crew had performed very well on earlier fires, according to Hot Fire Critiques and the Overhead on the fires, and had been specifically requested for earlier federal fires. Workers compensation benefits prevent expensive and drawn-out lawsuits. The applicable statutes are less than clear, and the typical intergovernmental agreements and employment contracts are inadequate to ensure coverage. Agencies need to work with their attorneys to ensure that coverage is clearly provided.
The Dude Fire can now be used for case studies and analysis to address such questions, without the cloud of litigation hanging over it. It is up to the community of firefighters to ensure that the lessons to be learned from the Dude Fire are not lost to budget cuts, busy schedules, or apathy. At this point, the Forest Service is anxious to pursue these issues, and I look forward to working with their eager experts. The fire is out, the litigation is over, but the Dude Fire is still smokin'.
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