

Kitson Fire, Middle Fork RD, Willamette NF
Near Miss/Accident Review 10/1/2008
Vehicle Crushed by Tree

Background:

On Friday, September 26 at approximately 16:30, 3 days after the start of the Kitson wildfire, two task force leaders (TFL) assigned to Division B were driving on Forest Road 5875 which was also the fireline in that part of the fire. The vegetation type adjacent to the road is second-growth Douglas fir with scattered large, mature trees. The area was burned 2 days prior in a burnout operation. The result of the burnout was an primarily an underburn with scattered crown scorch/consumption of the second growth trees.

The terrain in the area adjacent to the road is slightly sloping or flat. The weather at the time was clear, winds were light and variable. No noticeable wind gusts were noted.

A team of fallers with a falling boss had been in the area earlier in the afternoon and felled a snag that was on fire. The area immediately around the felled snag was scouted by the falling team but the fellers were primarily responding to hazards identified by crews working in the division.

A crew(s) had worked in the area earlier in the day, but none were in the vicinity when the tree fell. The operational objectives for the day were to cool down the immediate edge of the fire line/road and mop-up any concentrated heat within the first 50-100 feet.

The TFLs spotted a small spot fire on the non-fire side of the road and stopped to work the spot fire. The vehicle was parked on the non-fire side of the road. Both individuals did a quick assessment of hazards overhead and otherwise and did not identify any. After working on the spot for a few minutes, they heard a loud crack or pop and looked up to see the crown of a large Douglas fir falling toward them and the vehicle. One of the TFLs ran into the timber away from the direction of the falling tree. The other ran down the road. A large section of the tree landed directly on the parked vehicle completely destroying it.

The tree was a live Douglas fir, approximately 50 inches dbh. It broke off approximately 20 feet above the ground. An examination of the tree indicated the tree was burning internally at the break. The base of the tree was approximately 130 feet from the vehicle (measured at the shortest distance to the road it was 50 feet from the road). Further examination of the base of the tree showed no obvious signs of fire other than a small catface. Neither TFL suffered any injuries from the falling tree or from their escape.

Forest Road 5875 is classified as maintenance level 2/3 road, open to the public and maintained for high clearance vehicle use. The road was under an emergency fire closure at the time of the accident and near miss incident.

Analysis, Causal Factors

The primary causal factor of the accident/near miss was the undetected fire in the tree that weakened the tree bole a considerable distance above ground level. All observations by personnel in the area prior to the tree falling are that there were no external visual indications of active internal burning. The absence of visible external fire (and smoke), the apparent soundness at ground level, and that it was a green tree are likely reasons why it was not identified as a hazard during earlier snagging operations. There was nothing to indicate an imminent hazard or danger to the TFLs when they parked about 130 feet from the green tree in an area that had numerous green trees within the fireline.

Lessons Learned

It is extremely difficult to identify all high risk, hazard trees in a wildfire situation because of situations like this when there are no obvious or noticeable visual indicators. Therefore, it is important to scout all areas for hazard trees regardless of the stage of the fire or if it has been previously snagged or not.

Hazards created by fire-weakened trees can occur in all areas of a wildfire and areas adjacent to the fire, including well- travel roads, pull-outs, and staging/parking areas. All such areas should be as thoroughly scouted for hazard trees as the areas in the fire are where crews are working.

It is important to recognize danger and act quickly and decisively. One of the individuals involved in the incident identified two factors that he credits with sparing him and the other individual from serious injury. First, they were outside of the vehicle and were able to hear the crack of the tree trunk which alerted them. Second, they were able to quickly visually locate the direction the danger was coming from. In what he estimated to be only 2-3 seconds in which it took the tree to fall, they were able to react and run away from the spot where the tree fell. If either of them had hesitated for only 1-2 seconds the outcome might have been much different.

The Incident Management Team has conducted an After Action Review with the individuals involved with this vehicle accident and near miss.

Recommendations

Use the Guidelines - but don't let down your guard. There is a "Field Guide for Danger Tree Identification and Response" (and also a directive) but recognize that application *can never ensure a totally risk free environment.*

Avoid Tunnel Vision. No one should ever assume conditions are safe, even after the initial assessment, as *conditions must constantly be reevaluated* and awareness should be maintained at a constant, high level by anyone working in the area, *including all work and transportation zones.*

Do a risk/benefit assessment. Recognize that we also put cutting teams in an elevated risk situation to remove hazard trees. In some cases, removing the hazard may actually be creating a greater direct hazard. Consider other logical alternatives.