

Safety Alert

Common Factors from the Bull Fire and Horseshoe 2 Firefighter Entrapments Coronado National Forest June 15, 2011

Two firefighter entrapments occurred within 45 days of each other on two separate wildfire incidents on the Coronado National Forest located in Southern Arizona.

On April 29, 2011, two firefighters sustained first and second degree burn injuries on the Bull Fire. Multiple slopovers occurred during firing operations which grew rapidly when they aligned with topography and wind. The two firefighters were entrapped while located on a helispot. [Bull Fire Entrapment Facilitated Learning Analysis](#)

On June 7, 2011 during the Horseshoe 2 Fire, while trying to reach their safety zone, two firefighters took refuge in a rock cabin to avoid the approaching flame fronts. One firefighter sustained cuts to his hands, while breaking a window to gain access to the cabin. The flame fronts, developed from spot fires that aligned with wind and topographic features, grew with rapid rates of spread, entrapping the firefighters.

Common Factors

1. Operations:

- Firefighters were in the green downwind and upslope from firing operations.
- Specific actions associated with trigger points were not well understood by all resources.
- Firefighters had a plan for what to do if the burn was lost (plan did not work).

2. Fire Environment:

- Hot, Dry, and Windy (record dry fuels, red flag warnings)
- Spot fires/slopovers grew rapidly, influenced by wind and terrain alignment.

3. Operational Tempo and Team Cohesion:

- Firing operations were implemented with a sense of urgency to protect values at risk.
- Line personnel and overhead were new to each-other.

4. Gloves:

- Firefighters had gloves with them but did not have them on their hands during the entrapment.

Recommendations:

- Plan for things going bad(worst case scenario) – What specifically are you going to do?
- Establish multiple escape routes and safety zones and evaluate them often.
- Wear gloves. When done with tasks that require taking gloves off (i.e. spinning weather) put gloves back on immediately.
- Before engaging the fire, set specific trigger points with specific actions and make sure they are understood by all resources. When trigger points are hit, follow through and implement your planned action.
- Continually re-evaluate the current situation and adapt your plan to meet evolving conditions.
- If you feel your “hand is being forced” with any operational assignment, take a tactical pause to re-evaluate risk management and the probability of a successful mission.
- Conduct briefings to include local considerations on tactics and fire behavior. Pay close attention to non-verbal cues, practice active listening, and take adequate time when communicating, especially in stressful situations.
- Consider that most of the time the "green" is the most dangerous place to be.

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