2011 Incident Review Summary

Lessons from Wildland Fire Related Incidents Last Year

2011 Photos by Kari Greer
“Always have contingency plans. Discuss these plans and understand the actions associated when trigger points are met.”

“Reassess the location for the lookout every day. Just because the location was used on previous days, does not mean that specific location should be used for the current day.”

From 2011 Incident Reviews

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What did our multiple 2011 entrapments tell us?

What did incident reviews from last year teach us about emergency preplanning and communication protocols?

1. Introduction

This report presents a summary of the information gleaned from the seventy-eight 2011 incident review reports—from various agencies—submitted to and gathered by the Wildland Fire Lessons Learned Center (LLC). (Most of these reports have been posted to the Incident Reviews Database available on the Lessons Learned Center Website.)

Windows for Training Opportunities
In studying the details and findings reflected in this summary report, crew leaders should be able to gain ideas for relevant training topics.

For instance, many of the 2011 incident reviews discussed improving emergency preplanning and communication protocols as lessons for future operations. Conducting emergency operations incident scenarios (medical emergency, vehicle accident) for training and preparation was recommended multiple times.

In addition, in the majority of the fire incident reviews, trigger points and contingency planning also surfaced in the “lessons” portion of these documents.

As you read through this report, can you see other themes that might deserve follow-up attention in your training scenarios?
2. Overview of the 2011 Incident Review Reports

Every percentage component in this report’s pie charts has been rounded to the nearest whole number, which often results in a total of just under or over 100 percent.

- “SAI” – Serious Accident Investigation
- “NSAI” – Non Serious Accident Investigation
- “LLR” – Lessons Learned Review
- “FLA” – Facilitated Learning Analysis
- “Other” – [See chart below]

“In preparation for the fire season, practice scenarios during training for any Incident-Within-an-Incident.”
From 2011 Incident Review

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“Standardization can improve performance. Standard Operating Procedures (SOP) such as leaving keys in the ignition enabled the crew to move vehicles quickly. Standardization of vehicles, such as fire extinguisher location combined with training, allowed decisive and effective action by leaders and crew members.”

From 2011 Incident Review

3. Transportation

The transportation of wildland firefighters continues to be a high-risk mission, accounting for 21 percent (16 incidents) of all the 2011 reviews submitted to the LLC.

![2011 Transportation Incidents Chart]

Image on left is from the Davies Creek Ridge Helicopter Mission FLA. A helicopter is flipped on its side while shutting down.

Image on right is from the Engine 30 Vehicle Fire NSA/LLR. A type 6 engine catches fire while driving down the freeway.
“Aggressive firefighting that minimizes acres burned and firefighter exposure is the common preferred strategy. Efforts need to continue in connecting the understanding between management and firefighters of what other options are acceptable.”

From 2011 Incident Review

4. Breakdown of Operations Incidents

In 2011, of the 50 reports classified as “Operations Incidents,” the top three activities that resulted in an incident (including non-fire project work) were: Engine, Chainsaw, and Firing operations.

![2011 Operations Incidents chart]

- Engine Ops: 26%
- Chainsaw Ops: 24%
- Firing: 14%
- Mop up: 10%
- Line Construction: 8%
- Holding: 6%
- Dozer Ops: 4%
- Aviation: 2%
- Withdrawal: 2%

The tree being cut fell exactly as intended, but it pulled the top half of another tree down with it. Chittenden Felling Accident FLA:


A pocket knife prevents a more serious injury from a chainsaw kick-back incident. Do you wear chaps when you are the Trainer?

During the 2011 fire season, entrapments accounted for the largest percentage of “Accident Type” on reported incidents.

5. Breakdown of Incidents by Accident Type

During the 2011 fire season, entrapments accounted for the largest percentage of “Accident Type” on reported incidents.

In addition, on many incidents, firefighters were struck by objects—in most cases, trees.

Also of note, the majority (6 out of 10) of incidents categorized as “vehicle damage” consisted of burn damage to the vehicle (melted mirrors, blistered paint, etc.).

![2011 Incidents by Accident Type](chart.png)

- **Entrapment**: 7%
- **Vehicle Accident**: 16%
- **Hit by: Trees, Rocks, Logs**: 4%
- **Vehicle Damage**: 14%
- **Chainsaw Cut**: 7%
- **Burn Injury**: 8%
- **Heat**: 22%
- **Heart Attack**: 3%
- **Near Miss**: 13%
- **Other**: 7%

Both of these incidents occurred during firing operations with multiple resource types (engines and hand crews). Both reports mention the benefits of clear communication, organization, and leadership.
6. Fire Operations and Entrapments by Stage of Attack

Over half of all Fire Operations incidents (29 out of 53) occurred during initial attack.

A total of 17 entrapments were recorded during 2011 by the LLC. Entrapments followed the trend of occurring primarily during initial attack.
“If you believe you may need it, do not hesitate to use your shelter.”

“Do not call a parking lot a safety zone.”

From 2011 Incident Review

Left: Fire Shelter used on the Rock Creek Prescribed Fire:
http://wildfirelessons.net/documents/Rock_Creek_RX_Entrapment_FL.A.pdf

Right: View from inside the rock house during the entrapment of two fireline lookouts on the Horseshoe II Fire:

“I wasn’t thinking LCES, I was thinking get the fuel out there and burn.”
“Successful burnout operations day after day can lead to complacency.”

From 2011 Incident Review

7. Entrapments by Activity

During 2011, engine operations and firing operations were often the activities being conducted when entrapments occurred.

![2011 Entrapments by Activity](image)

To access a comprehensive incident review database, please visit: [http://iirdb.wildfirelessons.net/main/Reviews.aspx?Type=](http://iirdb.wildfirelessons.net/main/Reviews.aspx?Type=)

Image from the Google Earth depiction of the Bull Fire Entrapment included in the FLA: [http://wildfirelessons.net/documents/BullFireEntrapmentFLAFinal.pdf](http://wildfirelessons.net/documents/BullFireEntrapmentFLAFinal.pdf)