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# 2017 Incident Review Summary

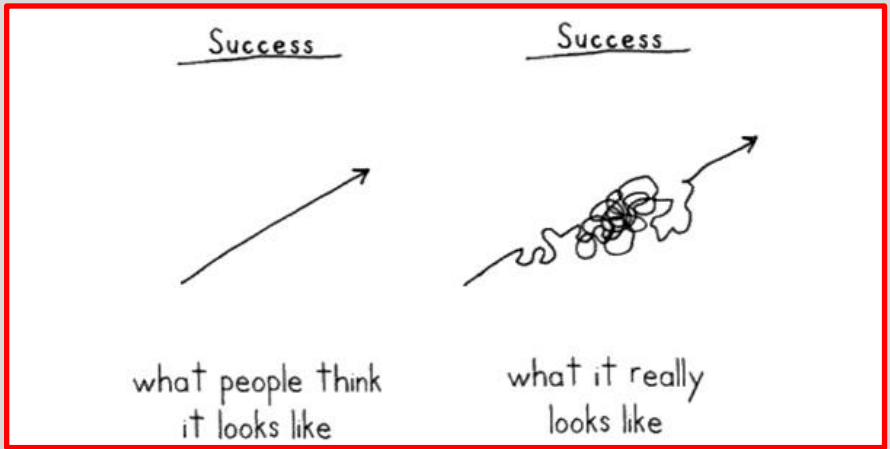


**This “word cloud” was generated from the types of injuries listed in the various reports submitted to the Wildland Fire Lessons Learned Center during 2017. The word size is relative to how often it shows up compared to the other words—the bigger the size, the more that word appears.**

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**“There is no innovation and creativity without failure. Period.”**

**Brene Brown**  
Research Professor  
University of Houston



## Contents

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|  |    |
|--|----|
| 1. Introduction.....                             | 3  |
| 2. Grave Numbers.....                            | 3  |
| 3. Work is Exposure and Sometimes You Lose ..... | 4  |
| 4. One, Two: Action?.....                        | 6  |
| 5. Nuts and Bolts.....                           | 7  |
| 6. The Lessons.....                              | 8  |
| 7. Call It What It Is: <i>Entrapment</i> .....   | 10 |

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**Use the content in this document to guide your annual Fire Refresher.**

### **Instructors:**

The exercises require some preparation – pulling up videos and some printing.

**Be Prepared.**

*Please do your part to translate the lessons from last season into learning for future operations.*

## 1. Introduction

Learning starts with awareness. This document helps you with awareness by organizing information from recent events. We have also built simple exercises to help initiate learning.

The information in this report comes from wildland fire incidents—from various agencies—submitted to and gathered by the Wildland Fire Lessons Learned Center (LLC) in 2017. The primary source of data is accident reports (FLA, RLS, SAI, etc.). Most of these reports have been posted to the LLC's [Incident Reviews Database](#). SAFENETs and other data sources have been included when no actual report could be located. In 2017 the LLC collected more than 130 incident reports.

### What Should You Do with this Report?

Our intent is for this report to inform general training and dialogue—very specifically, annual refresher training.

Use the exercises in this document. Use them formally in the classroom or informally with your peers. Print this document for your station. Do one of the exercises each day with your crew.

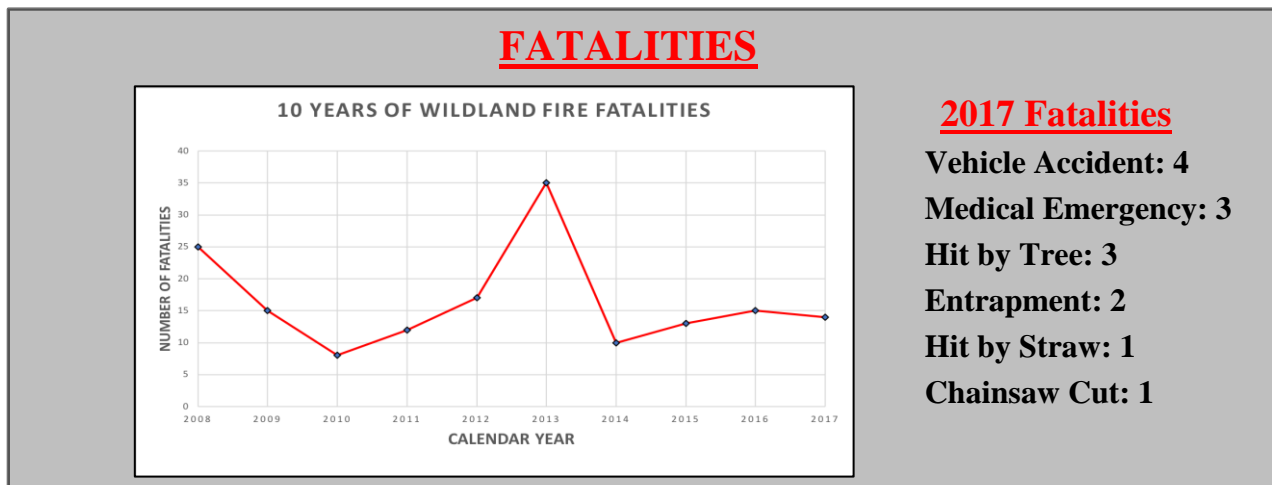
Please do your part to translate the lessons from last season into learning for future operations.



Throughout this report, this Action Icon identifies training curriculum related to the topic. If you are an instructor, you will need to look at each exercise ahead of time to pull up videos or to print reading material.

**Use these exercises for crew training days!**

## 2. Grave Numbers



**How do we talk about death?**



## Exercise (30 minutes)

### Part 1 (5 mins)

- In small groups, list as many “sayings” as you can about Line of Duty Deaths. For example: “*We haven’t found any new ways to kill firefighters*” or “*All our lessons are written in blood*”.

### Part 2 (25 mins)

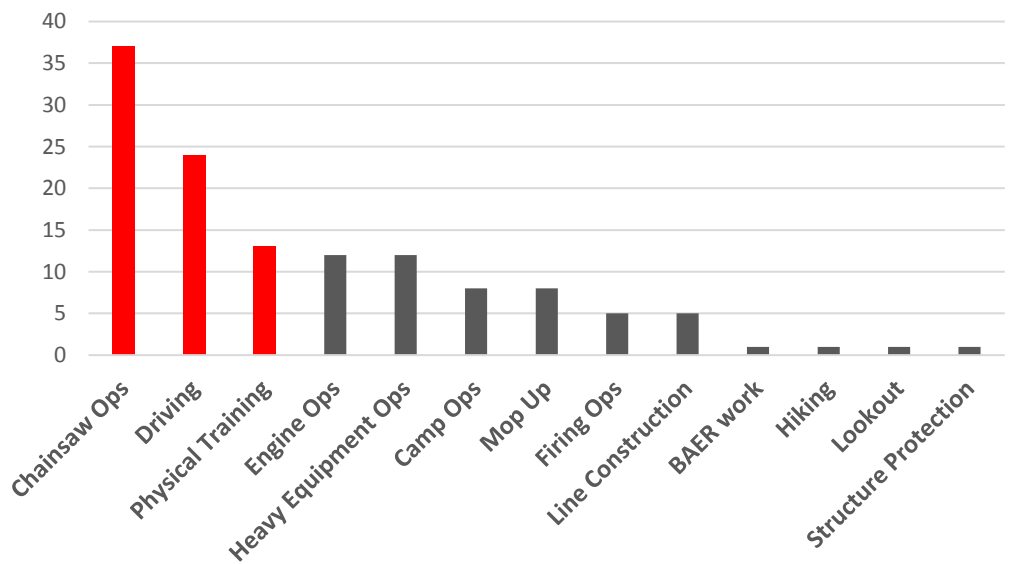
- Each group report one of your sayings to the larger group. Discuss what these sayings really communicate.
  - Are they true?—Are they useful?

## 3. Work is Exposure and Sometimes You Lose

### Activity

Our work involves dangerous activities. This is called “exposure”. Certain activities tend to result in incident reports more often than others.

## 2017 Incidents by Activity



## Exercise (20 minutes)

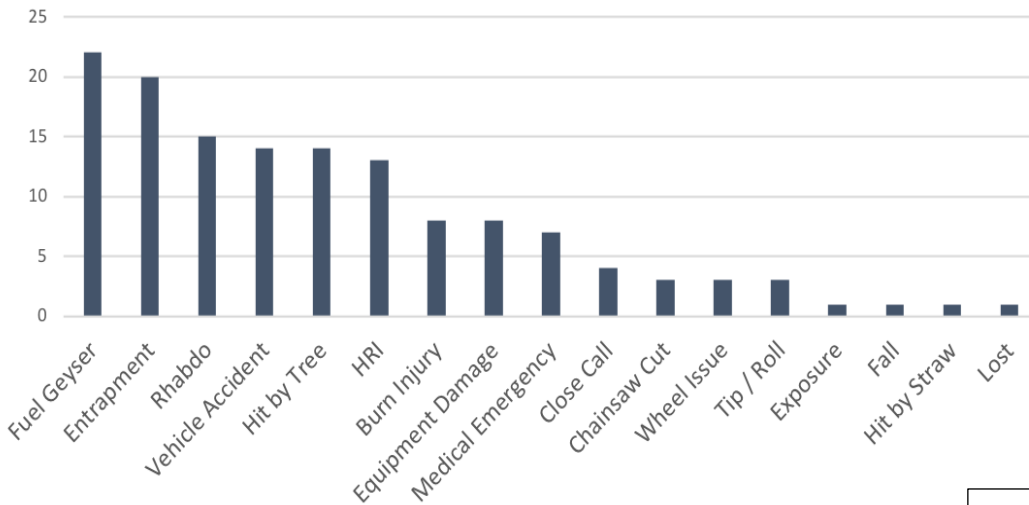
Read this blog post:  
[Smokeless Danger](#) (5 mins)

In small groups discuss the following questions: (15 mins)

- Is PT really more dangerous than Firing Ops?
- What is the danger of NOT doing PT?
- How do we “mitigate” necessary danger? (Like driving or chainsaw ops.)



## 2017 Incidents by Outcome



### Outcome

What was the *outcome*?

Example:

Activity = Chainsaw Ops

*Outcome* = Chainsaw cut

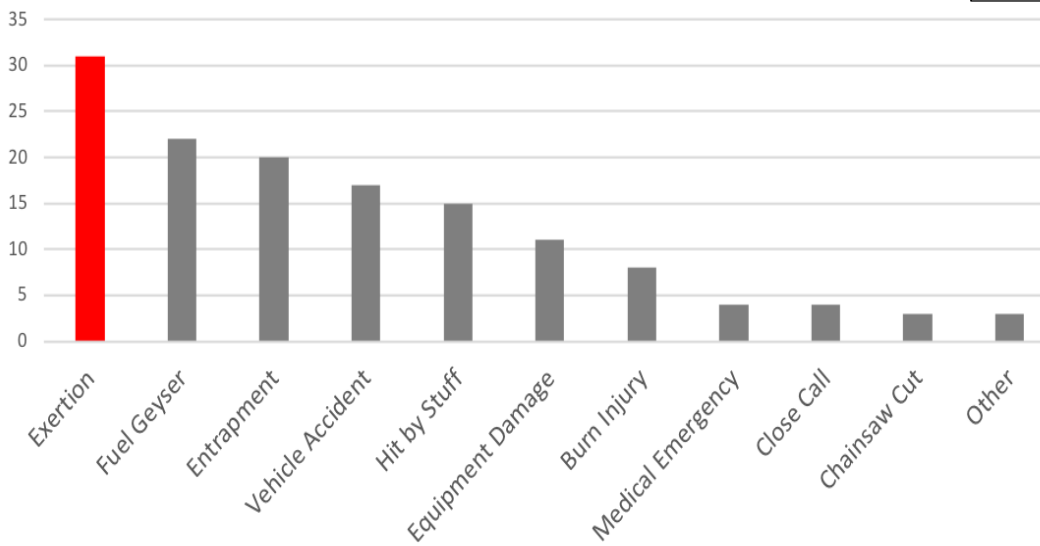


### Lumper or Splitter?

Both graphs use the same incidents organized in different ways.

Does how it's organized matter?

## 2017 Incidents by Outcome - "Lumped"



### Exercise (40 minutes)

- In small groups, talk about Rhabdo, Heat Related Illness, and Heart Attacks. What do you know for certain and what are some common "stereotypes"? (15 mins)
- In the large group, report out on all the stereotypes that each group identified.
- Discuss other common fire myths and stereotypes. (10 mins)
- Discuss where fireline "myths" and "stereotypes" come from. How are they useful? How are they problematic? (15 mins)

## 4. One, Two: Action?

If something happens more than once it is not a trend, but it may present an opportunity.

*What if* we noticed something has happened *twice* and has the potential to happen again?

*What if* people used this information and *took action* to ensure that this didn't happen to them?

Hmmm...Could that actually work? Let's try.

2012

"Firefighter A moves into the only opening she can see, removes her pack, gloves, then removes the fire shelter, discards her fuel bottle, and attempts to remove the radio and water from her pack. She has difficulty retrieving the radio due to the remote microphone cord being intertwined in the line pack webbing. Time is running out, she shakes open the shelter and deploys directly over her pack. She ensures the floor of the shelter is tucked under her. As the flame front hits, smoke and heat entered the shelter."

Holloway Fire Entrapment



### The Cord for Your Radio Mic

*Do you have an external microphone for your hand-held radio?*

*Do you know anyone who does?*



2017

"Iron Mountain lookout was trained to drop line gear to lighten his load. He knew he needed to take his radio, fire shelter and hand tool. He threw his line gear on the upper cut bank of the road to remove his equipment. The cord to his external speaker mic was woven into the webbing of his line gear, which is something that many firefighters do to keep the cord out of the way. The urgency of the situation made it even more difficult to disconnect his radio mic. He felt it took an extraordinary amount of time and was extremely frustrated when he finally removed the radio from his line gear."

Preacher Fire Entrapment



### Please Invent Something

Is this even worth talking about? Ask the two folks (above) who struggled with their cord as fire was bearing down on them. Nobody plans to be in this situation. But there you are. In those moments, seconds matter. Can you take a few moments now to figure out a better way to set up your radio...just in case? We like just in case.

What about those Velcro strap thingies made for keeping computer cords together? Hmmm . . .

### Exercise (30 minutes)

- In small groups discuss the practice of "weaving your mic cord" through pack webbing.
  - What are the pros and cons? (10 mins)
- Identify 3 ways to avoid the cord problem experienced in the two events listed above. (10 mins)
- Decide as a group if any MANDATORY changes are in order. Is there a reason to make a rule about this type of cord set-up? (Take a vote if you need to.) (10 mins)
- Report to the larger group the results of your vote. (10 mins)



## 5. Nuts and Bolts

What do you know about lug nuts and skid plates? 2017 provided us all with a great reminder: A little attention up front can save you quite the hassle. Hassle as in your wheels coming off on the freeway or your floorboard catching on fire. Those events are inconvenient—and extremely dangerous. Please take action on these nuts and bolts lessons.

### Stop and Have a Look

“I pulled over immediately to check it out and found all of the lug nuts on the driver’s side back dual wheels were very loose and the wheel was wobbling on the drum.”

[Mile 0 RX](#)



### Sounds Like a Rock in the Dual

“Once again I could hear a noise and now feel some sort of vibration. As I inspected the wheel I noticed that there were two lug nuts missing next to each other and the four of the remaining six were half way loosened on the studs.”

[Long Valley Fire](#)

2011



### Torque It

“As the Operator felt a change in driving characteristics in the engine handling, a wheel from the driver-side rear duals passed them and came to rest in an agricultural field.”

[Type 6 Stud Malfunction](#)



Not the first time

2016



### Get Your Tools Out

Pretty basic message here folks. Go check your lug nuts and clean out under your UTV floor boards.

### Exercise (20 minutes)

- Individually, write down 3 pieces of equipment that do not get inspected regularly. (5 mins)
- Trade lists with those around you.
- Plan out when and how often you will do these inspections



### UTV Floorboard Fire

“Accumulation of fine fuels located in an enclosed compartment under the UTV’s floorboard and above the skid plate ignited.”

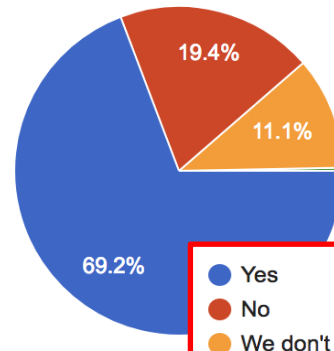
[UTV Floorboard Fire](#)

We asked this question: “Based on recently shared information from the Wildland Fire Lessons Learned Center, have you or your staff inspected your UTVs or ATVs for flammable debris?” We got 325 responses.

2017



2014



### Found It!

Of the folks who took a look, 27% found flammable debris.

## 6. The Lessons

This season we gathered information on more than 130 incidents. Most of these incidents have a report. These reports contain lessons from the perspective of those involved. Here are a few reports that we have chosen to highlight. **Remember, these are just words. YOU choose if they become action.**



### **Fallers?**

"It's always nice if fallers have an opportunity to assess and fell hazard trees in an area prior to other firefighters coming in. This is not always available or convenient.

*-When receiving your assignment, do you always ask if fallers have been through the area?*

*-What specific scenarios will trigger you to not work in an area until a full hazard tree assessment has been done?"*

[Tree Strikes Parked Engine](#)

### **Plan for Slow**

"When establishing trigger points, considerations have to be made for the slow operational speed of heavy equipment (2-3 mph), the slow process for loading and transporting heavy equipment, and the length of the escape route."

"Effective communications and lookouts ensured that personnel escaped prior to being overrun by the fire. However, there was little margin for error."

[Sheep Gap Heavy Equipment Burnover](#)

### **Find Experts**

"Utilize off-site subject matter experts to help identify possible hazards and the proper approach to PPE and fire suppression activities.

*-In this case, CHEMTREC was utilized to aid in the discussion. CHEMTREC advised SCBA and full structure turn-out gear as proper PPE. This information was relayed to IMT representatives."*

[Hazmat Mitigation RLS](#)



Sheep Gap

### **Know Where to Look**

For firefighters suffering from burn injuries, what are the appropriate burn protocols?

- ✓ Medical Incident Report section 4.
- ✓ IRPG pages 104-105.
- ✓ 2017 Interagency Standards for Fire and Fire Aviation Operations pages 171-173.

[Norse Peak Burn Injury](#)



### **Torque It**

"Operators of vehicles who have had any reason to remove a tire from a vehicle should follow re-torquing of the wheels as stated in the Owner's Manual."

[Type 6 Wheel Stud Malfunction](#)



## Use the Lessons

“Previous FLAs that I found on a quick Google search helped me make my decision to go to the ER. They were a good resource.’ Ricky cites the following document—created for Crew Leaders to carry with them and take to the hospital when presenting someone with a potential case of Rhabdomyolysis—as being especially helpful in his case: [Rhabdomyolysis in Wildland Firefighters](#)”

### [IHC PT Rhabdo Case](#)



### Know Short Haul

“Traverse Rescue Stretcher (TRS) gear can be—and has been—successfully used in wildland fire operations. However, a Patient in a TRS **cannot** be directly attached to a **Short-Haul** rescue line.”

### [Short Haul and TRS](#)

### No Brakes!

“The driver attempted to stop the vehicle using the service brake, but the brake bottomed out to the floor.”

A field inspection of coupler tightness can be easily verified by using a wrench. If the coupler is loose, then the repairs should be performed by a mechanic.”

### [Type 4 Brake Failure](#)

### Don't Trust Your Brain

“When it comes to assessing fatigue, listen to your body and what it is telling you, *not* your mind. It may be necessary to accept low-quality rest in order to eliminate driving exposure when your body is tired. The lack of sleep adversely affects sound decision making.”

### [Return from Initial Attack Vehicle Accident](#)

### Tent Fire

“Individual propane heaters should never be utilized in confined spaces such as tents.”

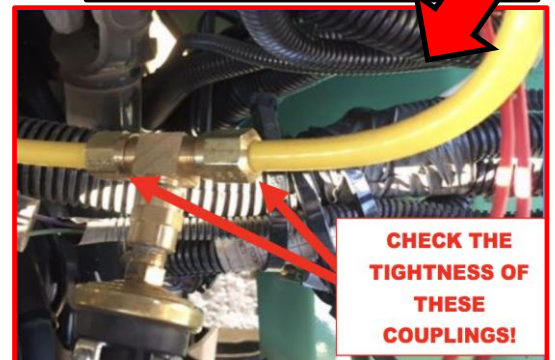
### [Burn Injury in Tent](#)



### Get Gone or Look Up?

“Do you focus on escape and not pause to look back? Or do you take a few steps and pause for a quick glance back to make sure everything is good? You will have to make this decision for yourself. Use this incident as a way to discuss this ‘where to look’ dilemma with fellow sawyers.”

### [Sawyer Hit by Tree Top](#)



### [Exercise](#) (30 minutes)

Look through all of the lessons on pages 8 and 9.

#### Individually: (10 mins)

- Identify and prioritize the *three* that are most important to you.
- Write down two steps you can take to implement/practice your chosen lessons.

#### Self-Organize: (20 mins)

- Move around the room and find everyone who shares your top-priority lesson.
- Discuss why you chose the lesson and share your implementation steps.
- Discuss the other lessons on your list.



## Chetco Bar Fire

“We were cut off, but we still had lots of options. We continued to fight, to think, to act and be engaged. We were not going to give up and become entrapped.”

# 7. Call It What It Is: *Entrapment*

## Why Do We Dance Around this Word?

There were many **entrapments** last season, two were fatal. Of the 20 reports that describe situations meeting the NWCG definition of Entrapment, only 4 (20%) actually described the event as an “Entrapment”.

Why?



## Entrapment

- A situation where personnel are unexpectedly caught in a fire behavior-related, life-threatening position where planned escape routes or safety zones are absent, inadequate, or compromised. An entrapment may or may not include deployment of a fire shelter for its intended purpose. These situations may or may not result in injury. They include "near misses."

## Packer's Cabin Serious Near Miss

### Packer's Cabin

*“I was afraid we were going to come back to burnt engines and tinfoil on the ground.”*  
Helicopter Co-Pilot

“Sometimes, despite our best planning and efforts, the fire is going to do what the fire is going to do. We can't change it, and putting people out there in front of it is just risking someone getting hurt. How do we and the public come to terms with this?”

“The escape route was to drive down the 1917 Road to the southwest and away from the fire.

It was then evident to Larry that their egress to the cabin was cut off by the fire streaming across the 1917 Road west of them.

At 12:30, Larry calmly asked the helicopter if they could see any good deployment sites.

They drove through “a tunnel of fire” to make it safely to the area of black.”

## Coyote RX Fire

“As progress was made toward the Group #1 fire/tie in point, 6 of the burners from Group #2 were cut off from their escape route. They were forced to walk through fire/heat to get out to the road and safety.”

## Sheep Gap Fire

“When the HEQ Task Force Foreman heard the call to abandon the equipment, he realized the urgency of the situation.”



## Rice Ridge Fire

“This is the location that was used later as the **safety zone/deployment site.**”

## Exercise (30 minutes)

### Part 1: (10 mins)

Read this short blog post:

[Entrapments Are...](#)

Individually:

- List as many sayings as you can that describe close calls with fire (such as “getting pinched” or “it got a little hot”).
- Do any of these sayings describe “Entrapment”?

### Part 2: (20 mins)

In small groups discuss the following topics:

- Read aloud the NWCG definition above.
- What does “absent, inadequate, or compromised” mean? Describe what those situations look like.

